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ABSTRACT

In mid-July of 1976, more than 70 education policy-makers, practitioners, and researchers representing more than 35 states gathered in Denver to exchange information about the implementation and impact of competency-based education (CBE) in the public schools. This proceedings is a record of those four days. During the conference these policy-makers, practitioners, and researchers who are on the cutting edge of the CBE movement reported on their progress and their problems, their data and their insights, their procedures and their motives. Time was carefully reserved for discussion and much of the information that both program and conference participants reported as being most useful to them resulted from these lively exchanges. This compilation of proceedings offers the full text of major addresses where the text was available. It abstracts the presentations by state representatives and researchers and it summarizes some of the final day's discussion. In addition, it gives information about CBE issues, trends, policies, programs, developments, and resources gathered during and after the conference. (Author/IRT)

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Proceedings of a Conference on "EDUCATIONAL REFORM: THE ROLE OF COMPETENCY BASED EDUCATION"

Sponsored by the
Study Commission of the
Council of Chief State School Officers

In cooperation with the
National Institute of Education

Edited by

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and
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This conference on competency based education was held in Denver, Colorado, July 13-16, 1976.

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This compilation of proceedings owes a great deal to the generosity of two participants who shared their comprehensive notes with the editors: Kathleen Kies of the Pennsylvania Department of Education, and Peggy Gonder, Denver Contributing Editor of Education U.S.A. We are also indebted to the many program participants who transformed what were often informal presentations into a record which could be shared in these pages.

Finally, thanks are due to all the participants in the conference for their contributions to its success. These proceedings have managed to capture only a portion of the rich and useful exchanges which took place during the conference.

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I. INTRODUCTION

INTRODUCTION

In mid-July of 1976, more than seventy education policy makers, practitioners and researchers representing more than thirty-five states gathered in Denver to exchange information about the implementation and impact of competency based education (CBE) in the public schools. This proceedings is a record of those four days of sharing.

outcome based education by public and professional concern over such matters as declining test scores, reports of employer dissatisfaction with the competency of high school graduates, and lack of accountability for increasingly scarce educational resources. Largely as a result of such concerns, the number of states that had adopted or were considering aspects of the competency based approach had almost doubled within the last year to twenty-nine. And these twenty-nine states included 31 million students or about 67 percent of the total elementary and secondary school population of the United States.- In reviewing the growing commitment to CBE on the part of the states, Dr. Chris Pipho, Associate Director of Research and Information Services of the Education Commission of the States, observed in the June 1976 National Assessment of Educational Progress newsletter that legislation is moving through state capitals so rapidly "that day to day bulletins are needed to keep up..." This growing interest in the implementation of CBE both inspired the conference and heightens the potential significance of this record of it.

During the conference a number of policy makers, practitioners and researchers who are on the cutting edge of the CBE movement reported on their progress and their problems, their data and their insights, their procedures and their motives. Time was carefully reserved for discussion, and much of the information which both program and conference participants reported as being most useful to them resulted from these lively exchanges.

This proceedings offers the full text of major addresses where the text was available. It abstracts the presentations by state representatives and researchers and it summarizes some of the final day's discussion. In addition, it gives information about CBE issues, trends, policies, programs, developments and resources gathered during and after the conference.

It is the hope of the editors and the conference sponsors and participants that this information will be of use to all those interested in the promising concept of competency based education.

Walter E. Hathaway
Salem, Oregon

II. PRESENTATIONS

Keynote Address: Leon Lessinger

"Results-Oriented Education"*

Abstract

Competency based education offers a timely opportunity to respond to the growing public demand for accountability, i.e., for results. This movement demands from the professional community a rethinking of educational administration; it demands that we examine the outcomes of what we do, measure our productivity, and examine the ways we go about working toward those outcomes. CBE is, potentially, a powerful tool for improving curriculum, reforming delivery systems, providing educational alternatives, and perhaps, lessening our over-reliance on school itself for education.

The demand for focus on results from the public sector is loud and clear. It has spurred greater effort than ever before at evaluation. But let us put evaluation in the perspective of systems thinking. It is time we talked about management, not just administration. It is time we talked about control, not just evaluation.

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*This summary was abstrated from notes on Dr. Lessinger's informal address since a full text was unavailable. For fuller explication of Dr. Lessinger's ideas, the reader is referred to his many books and articles, particularly Every Kid A Winner: Accountability in Education, and Quality Control and Educational Auditing and Quality Assurance, available from SEA/Staff Development Project, Council of Chief State School Officers, 1201 Sixteenth Street, NW, #304, Washington, D.C. 20036.

The missing element in evaluation is corrective action -- remediation. The question is not asked often enough: How shall we respond to what we learn about what we've done? In other words, we must move toward a system that promotes continual renewal of design and, if you will, a constantly improved productivity.

A control function allows us to make improvement decisions on the basis of data. Let me propose a formulation -- one that rejects bell curves--one that substitutes the "zero reject ideal of 'every kid can win.'

$$E = \frac{A}{BxC}$$

E - effectiveness
A - actual performance
B - number of objectives as output
C - number of students

Talk about control is integrally related to talk about quality. The definition of quality is not an easy one. In CBE, we must ask: What are the competencies? How will we determine the needed skills, knowledge, and effect? The underlying question, of course, is even bigger: What is the purpose of schools?

We know learning is based on experiencing. That leads me to a hasty assessment of just what we can offer.

We know how to supply training experience. (The military is expert at it.) I hope we won't forget that we can also look at the quality of experience -- and that we can foster the celebrative experience. It's an exciting challenge!

Introductory Address: Walter Hathaway, Director
Oregon Competency Based Education Program

"Competency Based Education: Definitional Issues and Implications for Cooperation Across Educational Institutions and Levels"

An Egyptian myth describes the phoenix as a splendid bird which regularly consumes itself by fire only to arise renewed each time from its ashes. Education may be likened to the Phoenix in its continual cycle of self-renewal. The latest movement toward revitalization of education has been labeled competency based education. While it is currently only the spark of an idea, it promises to become a fire which will consume all institutions and levels of education, giving birth to a purified, more relevant and more effective approach to preparing this and future generations of students for the good life in society. Evidence of the incendiary nature of the CBE movement is to be found in the fact that just at the elementary/secondary level of education, some 29 states are reported to have recently set in place or taken under consideration either legislated or state board-ruled CBE programs. (See Appendix D)

In view of the pervasiveness and promise of the competency based education movement, it would seem good and logical for all of us involved in education to unite in cooperative effort in order to foster its evolution and to help realize its potential as an approach to an educational renaissance. There are, however, myriad definitional issues which need to be addressed, explored and dealt with as we begin and proceed with our individual and collective efforts. I wish to explore briefly some of these issues, as a way to facilitate our work together during this week and thereafter. Some stem from the nature of competency based education and even of education itself; and some arise from the youthfulness of the movement. All of these issues seem to me, however, to deserve our careful attention and consideration.

Issue One: What is it?

The fundamental issue is that there is no common agreement about what competency based education is.

Given the diverse origins and relative immaturity of the competency based education movement, it is not surprising that there is no single agreed upon definition of it. Nor is it necessary or even possibly desirable that there be such agreement. Career education, the immediate predecessor and first cousin of competency based education, is an example of a movement which has had a substantial impact on education during the last ten years while continuing to evolve its nature and to tolerate diversity of programs. Evidence of this is to be found in a debate which is currently raging in the pages of the *Harvard Educational Review* over "what career education is really all about." Nevertheless, we would seem to invite communication problems if the coined term, competency based education, is allowed without distinction to embrace everything from Maryland's proposed program requiring minimal reading levels of standardized tests as a basis for promotion beginning in the second grade, to the joint classroom and clinical competency based law program at Antioch College.

Two approaches, *the descriptive* and *the programmatic or prescriptive*, have been followed for the most part in attempts to arrive at definitional clarity as to what competency based education is. The work of Alan Schmeider (1974) and Robert Roth (1974) in competency based teacher education and of David Trivett (1975) and H. Jarrett (1974) in higher nonprofessional education have followed the descriptive approach of identifying and depicting programs which label themselves competency based and then searching for common elements among them. Articles by Glick, Henning and Johnson (1975) and by Robert Howsam (1972) provide definitions of competency based education which might be considered "a priori" and programmatic or prescriptive. Hopefully, the two approaches will converge upon a workable conception of competency based education.

Content. There is already some evidence of such convergence in a fairly extensive agreement that *competency based education is a performance oriented process of educating which has a content bias or orientation toward extra-school high social utility, life functional outcomes*. Both descriptive and prescriptive approaches to defining competency based education seem to agree that its unique content dimension lies in an explicit commitment to help students become well-functioning human beings, citizens, teachers, nurses, doctors, social workers, welders, mathematicians, or whatever role is the focus of the program. And it often reflects a desire to be able to involve all interested persons in a dialogue about what should result from the dollars, the hours, the agonies, and the hopes that go into that program.

Process. As a process, competency based education seems to involve three main elements: (1) the communication to the public, to one another, and to students, of a rationalized vision of what it is we hope that the students will learn; (2) a focusing of instructional support and learning environments upon these educational outcomes, and (3) the formative and summative evaluation of student progress toward the outcomes or competencies, with an eye to competency refinement, program improvements, and modification of learning environments, and student certification.

The CBE process seems to have the potential to help us address in a more productive fashion both of the two major aims of education, i.e., to help all students reach at least a minimal level of post school functioning and to help each student develop his or her potential to the fullest possible extent. In the absence of an undergirding philosophy or a spokesman such as progressive education had, working unanimity on what competency based education is either in terms of content or of process, may be long in coming if it ever arrives. In the meantime, we had better be prepared to begin our dialogues about CBE with a declaration of what each of us takes it to be.

In this spirit, I present in Appendix E the current working characterization of CBE as created by our Oregon Competency Based Education Program.

Issue Two: What are the competencies?

A second issue is related to the first and is also epistemological in nature. It involves the fact that it is extremely difficult to arrive at a coherent vision of what competence is and what the competencies to be pursued are. This is, of course, where the agreed upon content orientation of CBE comes into play.

Most CBE programs do seem to address post-institutional capability. The common approach is to identify what it means to be able to function well at the extra-institutional activities to which the mission of the educational institution or system is directed and then to assure that the educational efforts of that system are directly related to those activities and that all students develop and demonstrate acceptable levels of mastery before being certified by the institution. Three main approaches to this competency identification process are being followed: (1) an analysis of the tasks to be performed by certified students; (2) an analysis of the competencies implicit in the existing program or curriculum, and (3) the seeking of consensus between and among both the actors in the system and its clients. Some programs follow only one of these approaches, but more commonly two or even all three are employed within a single program.

Whatever the approach, the task of developing a coherent vision of the desired competencies is at best difficult for professional schools and programs, and is perhaps almost impossible for elementary, secondary, and general higher education since it assumes empirical foundations or philosophical and value agreements which are at present nonexistent. The effects of failing to meet these assumptions became evident recently, for example, when two hundred and twenty one secondary school districts in Oregon were directed by the State Department of Education to adopt high school graduation competencies and they came up with two hundred and twenty one different sets. And those sets of competencies differed from the set we will be discussing later which was developed by Ruth Nickse's New York external high school degree program in Syracuse, which in turn differs from those we will see from Norvell Northcutt's Adult Proficiency Level program and similar divergence in the content of the competencies of programs with similar basic missions has been pointed out at post secondary levels of education.

Dealing with this issue adequately will require years of research and contemplation. In the meantime, it is essential for us to share our methodologies, our assumptions and even our fears as we attempt to define competencies for our individual institutions and work to articulate them across the levels of education.

Issue Three: Certifying Competency

A third issue is that even when we can agree upon a definition of competence and comprehensive sets of desirable competencies appropriate to our specific educational contexts, we often find that we cannot measure and certify them satisfactorily, objectively and justly.

Here we are faced with a dilemma. Either we can measure and certify well the few things the state of the art of educational measurement allows us to assess in a fashion which is reliable, valid, objective, and empirically related to post-school success, or we can measure and certify poorly and subjectively the other competencies which we as educators feel should be included in programs. Again there is no simple solution to the problems posed by this issue. It is we and others like us who must develop the myriad innovative, valid, reliable, objective and life role related measures which our commitment to competency based education requires. And promising beginnings have been made by the Cooperative Assessment of Experiential Learning, the Center for Applied Performance Testing, and the National Assessment of Educational Progress, as well as by many individuals.

Issue Four: Humanistic Outcomes

A fourth issue arises from the fact that in the effort to operationalize the dual commitment of CBE to post-institutional functioning and to objective measurement of competencies directly related to life roles, much of what has been and is viewed by many as educationally important is eliminated. New York State Superintendent Nyquist formulated the horns of this dilemma well when he said that, "Education has two purposes: one is to help each person to earn his bread and the other is to make each mouthful sweeter. Education is learning how to make a living but it is also learning how to live a life that is sensitive, creative, compassionate, and humane." In the field of professional education, Paul Pottinger (1975) has identified such essential characteristics as motivation, perseverance, dedication and integrity as possibly being overlooked by the technology of the competency based approach. And in general education, he has identified such educational outcomes as "the ability to relate to others effectively, to empathize with others, to engage in moral reasoning, to accept responsibility and to analyze, synthesize, and strategize in problem resolution" as being potentially put on the endangered list of educational outcomes by CBE.

Again, it will only be the shared, good faith efforts of educational researchers, developers, and leaders like yourselves that will allow competency based education to steer a steady course between the Scylla of reductionism and the Charybdis of empty liberalism.

I did not intend by raising these four thorny, if general, issues to cast a pall over the sense of excitement and mission with which you approach these four days of sharing. On the contrary, I believe that a reasoned, research-based reformation of the process of education is certainly desirable and possibly inevitable. And I hope and believe that the emergent CBE model with its commitment to clarity of purpose, attentiveness to student uniqueness, publicness, and objectivity represents a large step in the right direction. Finally, like all of you, involved as I am in my own elementary and secondary Oregon Competency Based Education Program's level of concerns, I welcome this opportunity to share information and to become immersed in a nationwide network of competency based education colleagues.

The mention of immersion reminds me of the story of the Russian peasant who was plodding along on a frozen winter's morning on his way to chop wood in the forest. As he and his faithful horse plodded along the tundra road, he heard some faint cries as if from a small bird. Looking about in the snow and the frost, he finally did find a small frozen bird, unable to fly because of the cold. He was tempted to take the little bird back to his hut, but being a pragmatist and knowing that that would cost him an hour's work in the forest, he finally had to decide to move on. Just as he did, nature took its course and helped the horse to produce from its nether regions a warm environment for the small bird. The peasant, being a creative problem solver, swept up the small bird and put it in the steaming environment provided by the horse, and then went on his way. The little bird, revived by the enveloping warmth, shortly began to feel restored. Little by little as his spirit lifted, he began to chirp and finally to sing. He had only launched into his happy flight of song for a moment when a passing wolf heard him, and trotting through the brush beside the road, leapt out and snatched the bird to its death in his grim jaws. There are three morals to this story which may be appropriate to competency based education. The first is, it is not necessarily your enemy who puts you in it. The second is, it is not necessarily your friend who takes you out of it. And finally, when you are in it up to your ear, it is not time to start singing.

We are all in competency based education together up to our ears. If we fear to sing, at least let us sweep aside practical and institutional barriers and resistances and continue to talk to one another. The alternative is that the drive toward Bureaucratic Safety which has subverted so many previous attempts at serious educational improvement will stifle the promise of competency based education. And once its fire has briefly flared, instead of a splendidly renewed and transformed educational Phoenix, competency based education may leave us with nothing but a cooked goose.

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Abstracts:

"State Experiences in Outcome Definition"

Texas: Charles Nix

Competency based education is viewed as the insistence that consciously planned for and deliberately intended student learning outcomes be the chief focus of educational planning. This definition of student outcomes relates to the goals for public school education as stated by the State Board:

I. Goals for Student Development
II. Organizational Efficiency
III. Accountability

As called for by the board, areas of priorities related to the goals have been established. Two are presented here:

1. Improvement of student achievement in mathematics and reading, based on:

   - the state goals and the 1971 Texas Reading and Mathematics Assessment Project.
   - a "grassroots" base -- 40 regional meetings to identify essential objectives at sixth and twelfth grade levels.

   These outcomes have been used as a basis for program renewal:

   - The state guidelines and curriculum bulletins for the development of local instructional programs have been revised to include these essential objectives.
   - State proclamations for reading textbook adoptions were written to specify coverage of these objectives.
   - The essential reading objectives are included as a part of the Texas Right to Read Plan and as a part of the leadership training modules developed for Right to Read directors.

2. Career Education

   A number of activities generated learner outcomes, which were then reviewed by several thousand Texas citizens, educators and students. Nine categories grouped the 177 basic outcomes:

I. Career Planning and Decision Making
II. Career Information
III. Job Acquisition and Retention
IV. Attitudes and Appreciation for Career Success
V. Skills in Human Relationships for Careers
VI. Self-investigation and Evaluation for Career Success
VII. Personal/Work/Societal Responsibilities
VIII. Economic Factors Influencing Career Opportunity
IX. Education/Career Opportunity Relationships

Two applications of these outcomes to program renewal have been:

1. The Texas project for Incremental Quality Increase demonstrated to local and regional educators effective means for facilitating increased career education learnings.

2. Workshops have been conducted for teachers to explain how these learner outcomes can be measured and the results of those measurements used for planning instructional activities.

In addition to board priorities, there are two Texas projects related to student outcome definitions taking place primarily at the school district level:

1. In 1974-75, 35 school districts participated in a pilot project to explore how the accreditation process might be used to make student learning goals central to the entire procedure for assessment, evaluation, and program improvement. In 1975-76 an additional 138 school districts entered the project and another 211 have begun to participate for the coming school year. This revised accreditation process required a school district to:

   - establish a set of goals for student development,
   - assess the attainment of these goals,
   - develop a five year plan, and
   - conduct a program evaluation and renewal.

2. In 1971, the Texas Education Agency, in cooperation with the Division of Extension of the University of Texas, initiated the Adult Performance Level Project. This project defined the specific adult competencies required to perform everyday life tasks and assessed the degree of attainment of these competencies among the adults of the United States. Currently, curriculum and instructional practices are being developed to assist adults in attaining these competencies.

California: Alex Law and Dale Carlson

The statewide testing program in California originated in 1961. Until legislation of 1972 which provided for the development of tests relevant to California education, a variety of published state tests were adopted for statewide use. The process followed in developing content specifications and building instruments to match those specifications is briefly summarized below:

1. Statewide committees of content area experts were formed and charged with the task of translating and delineating the general goals found in state adopted curriculum frameworks into more specific objectives appropriate for assessment.
2. These specific objectives, or test content specifications, were then reviewed by personnel in all California school districts for completeness and relevance to their instructional programs. The revised specifications served as the basic guidelines for selecting and developing pools of test items (See Figure 1 for sample.).
3. The specifications were sent to test publishers with a request to submit matching test items for review by California educators for possible use in developing the new tests. Most major publishers responded by offering a large number of items.
4. From the initially large pools of items, teams of classroom teachers selected the items that were most appropriate for California students.
5. These items were then reviewed by linguists and minority group testing experts for any subtle biases against students of different language or cultural backgrounds.
6. The final pool of items, several hundred at each grade level, was then divided into several short tests or forms -- from 10 to 18 per grade level. All test forms were made equivalent in difficulty and coverage of major skills.

See Figure 1, page 21.

Figure 1

Sample Objectives and Instrumentation from California Statewide Testing Program

10.1 *Skill Area:* Estimation -- Length, Area, Capacity, and Conversion Factors (Cont.)

10.11 (Cont.)	Determine the length of specified objects (U.S. Customary and SI metric systems).	b. To the nearest centimetre, half centimetre, or millimetre	Naming the length from pictorial representation	6	What is the length of AD? (A) 4 cm (B) 4.1 cm (C) 4.2 cm (D) 4.5 cm (E) Not given What is the length of AE? (A) 4.8 cm (B) 4.9 cm (C) 5 cm (D) 5.1 cm (E) Not given What is the length of AF? (A) 5.0 cm (B) 5.6 cm (C) 5.7 cm (D) 5.8 cm (E) Not given
10.12	Estimate the length, breadth, height or capacity (U.S. Customary and SI metric systems).	a.To the nearest inch or ½ inch	Choosing "best" estimate of given pictorial representation	6 & 12	U.S. Customary System About how long is line segment XY? X ____________ Y (A) 1 inch (B) 2 inches (C) 6 inches (D) 1 ft
		b.To the nearest centimetre			Metric System About how long is line segment XY? X ____________ Y (A) 5 centimetres (B) 10 centimetres (C) 15 centimetres (D) 20 centimetres (E) 1 metre
		c.To the nearest $\frac{1}{8}$ inch	Choosing from given description of objects	6 & 12	U.S. Customary System Which of these is less than $\frac{1}{8}$ of an inch thick? (A) A piece of notebook paper (B) A door (C) A brick
		d.To the nearest millimetre			SI Metric System Which of these is less than one millimetre thick? (A) A piece of notebook paper (B) A door (C) A brick
10.13	Identify conversion factors for unit of length and its sub-units (U.S. Customary and SI metric systems).	a.Feet to inches and vice versa	Choosing the numeral	6 & 12	U.S. Customary System 1 foot is 12 inches 1 yard is 3 feet 1 mile is 5 280 feet

Oregon: Don Egge

The Oregon Constitution requires that the legislature provide and maintain "a uniform and general system of common schools." The school districts deliver the educational program; the state agency was established to ensure the effectiveness of local programs.

During the transition from the 60's to the 70's, the state community was questioning the meaning of the high school diploma. Then, during the last five years, several State Board policies were enacted in response to key points of intervention identified as needed for school reform.

1. Revision of state standards and graduation requirements.
2. Several policy shifts:
    a. from input to outcome as basis for system definition.
    b. to shared decision making between state and local districts.
    c. toward experiential schooling.
    d. toward greater congruence and articulation with the community's expectations and resources.

The shift to outcome specification included:

1. State outcomes: Board-adopted learner goals, life-roles centered.

2. Local outcomes: Local boards adopt system (state) broadly stated goals; develop competency statements, performance indicators, and evaluation methods.

3. A delivery system: Planning and evaluation, based on explicit goal statements, provide key management information.

Abstracts:

"State Experiences in Program Implementation"

Pennsylvania: Dave Hornbeck

In this state, like so many others, concern has grown over the number of kids -- and adults -- who lack "basic skills." Dropouts, disruptions, falling scores, and public lamenting have demanded new action.

Pennsylvania has chosen to focus on five life role competency areas:

1. Basic skills
2. World of work
3. Leisure time
4. Citizenship
5. Survival skills

It is quickly obvious that traditional subject matter areas won't work; that learning locations must vary and must be truly experiential; and that the agents of learning must be reconsidered -- teachers retrained, and the community taking on some very real and critical responsibilities.

Some of the implementation strategies are:

1. Statements of graduation requirements in competencies terms must be developed by 1981.
2. The broader community must be involved.
3. Practical problems of real life must be considered.
4. Illustrative curriculum strategies must be developed.
5. CBE must be absorbed into the state assessment.
6. Locally developed assessment procedures should be

assessed, as is politically feasible.

Twelve "model" school districts are involved in initial implementation procedures, while other districts and the public are appealed to for support.

California: Ann Freers, Rex Fortune, Hank Weiss

The state has been moving in this direction for some time, with a clear push toward accountability, including the linking of teacher evaluation to student performance since the early 70's. The establishment of proficiency tests as an exit route outside school has forced some hard thinking. Schools must meet student demand for help in preparing for those tests. A major question appears: How do we offer courses that will make kids want to be in school? Other questions are important, too: What can we individualize -- means, pace, or ends? Is our effort a grand addition, or are we facing, really, a restructure? The balance of state and local determination is an important issue, too.

R.I.S.E. We are looking here at a total reform strategy (Reform of Intermediate and Secondary Education).

1. Process

   a. July 1974. A "blue ribbon think tank" worked for 10 months to consider what secondary education should be, and made recommendations, after conducting hearings around the state.

   b. May 1975. The state agency developed an implementation strategy.

   c..RISE legislation is now in process, authorizing 5% of schools to implement RISE, beginning in January 1977.

2. Commission Report

   Ten characteristics of an educated adult were developed as a framework for citing competencies, including such domains as citizen and consumer skills, self esteem, cultural and aesthetic appreciation, communication skills, etc.

The student was described as the primary client.

3. Implementation

   The RISE legislation includes a test of outcomes. It establishes School Site Councils and funds them to create plans for reorganization. It requires plans to provide a personalized learning program for every student, supported in part by personalized staff development. It sets out responsibilities at all levels, local to state, and calls for community involvement. It stresses a positive learning environment and asks for strategies to maximize use of resources and for evaluation. The state agency must develop learner standards in basic skills by 1980. Seven districts presently serve as prototypes, while resources are inventoried and a Planning Guide is developed.

Industry/Education Council

It is time education fully utilized the potential of industry and labor in the educational process. Students can deal with real problems in real settings as an avenue to learning. The business and industry community, which has shown its willingness to put resources into education, must become involved in improving curriculum, environments, and pupil/adult ratios.

Oregon: Bus Nance

In 1972, the State Board of Education established new graduation requirements, fully effective in 1978. Old Carnegie-unit type subjects were changed to "required areas of study " attendance requirements allow early or delayed graduation, and a variety of settings. The final requirement directed local districts to develop, adopt and verify student achievement of minimum competencies necessary to:

a. Read, write, speak, listen
b. Analyze
c. Compute
d. Use basic scientific and technological processes
e. Develop and maintain a healthy mind and body
f. Be an informed citizen in the community, state and nation
g. Be an informed citizen in interaction with the environment
h. Be an informed citizen on the streets and highways
i. Be an informed consumer of goods and services
j. Function within an occupation or continue education leading to a career.

This requirement proved to be the area in which the greatest difficulty was faced by local school districts and by State Department staff assigned to provide leadership and assistance. Very little, if any, work had been done in competency based education at the public school level, so work had to begin at ground zero.

The ODE, through utilization of Title III funds, was able to provide grants to six groups of local school districts which volunteered to prepare examples of minimum competencies in the areas prescribed by the State Board. The results of those pilot efforts were synthesized by district and state staff members into an original document entitled "Guidelines to Graduation Requirements" and distributed to all local and intermediate education agencies for use in local implementation of the competency requirements. (At that time -- spring of 1973 -- local districts were given until September of 1974 to develop and adopt minimum competency statements based on local needs and priorities.)

One of the immediate problems that arose in Oregon was the wide range in numbers and levels of difficulty in competencies from district to district. Numbers ranged from as few as 35 to nearly 400. Most districts wrote "enabler" type competencies (e.g., "...can perform the four fundamental processes of arithmetic with whole numbers;" "...can locate the main sentence in a paragraph), while a few developed "application" competencies (e.g., "...can balance a checkbook, involving ten withdrawals, interspersed by three deposits;" "...can read an apartment rental contract and specify the terms to which the lessor and lessee have agreed"[1] Local districts, the State Department, and the project funded by the National Institute of Education are still working on this problem.

Since the first adoption by the State Board of the graduation requirement changes, those changes have been made a part of a revised set of Minimum Standards for Public Schools, a move which has made the graduation requirements a part of a much broader picture of competency based education.

As adopted June 23, 1976, the Standards required districts over a scheduled timeline, to:

1. Develop district level goals, consistent with state goals and interrelated with program goals (1976).
2. Develop district program goals (1976).
3. Develop district course goals, 9-12 (1977).
4. Conduct assessment in basic skills achievement in various programs (1979).
5. Identify needs based on those assessments (1980).
6. Improve programs having priority needs (1980).
7. Develop procedures for providing individualized instruction K-12 (1979).
8. Articulate elementary and secondary education in the competency areas (1977).

A picture of Oregon competency based education in the future might be diagrammed as in Figure 2, page 30.

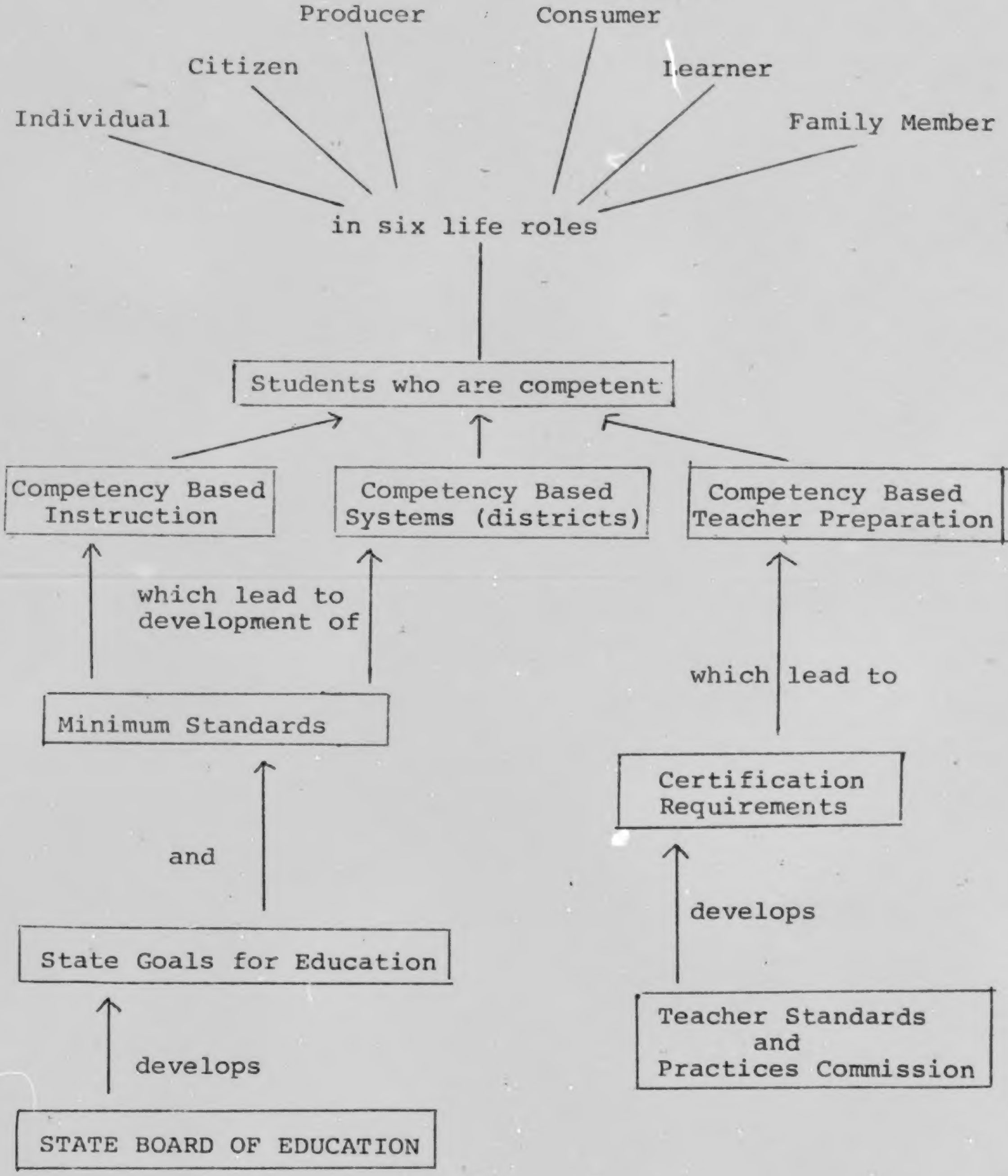

Individual
Citizen
Producer
Consumer
Learner
Family Member
in six life roles
Students who are competent
Competency Based Instruction
Competency Based Systems (districts)
Competency Based Teacher Preparation
which lead to development of
which lead to
Minimum Standards
Certification Requirements
and
develops
State Goals for Education
develops
Teacher Standards and Practices Commission
STATE BOARD OF EDUCATION

Figure 2.

Abstracts:

"State Experiences in Assessment and Evaluation"

California: Dave Gordon, Alex Law, Dale Carlson

Issues

A number of policy and procedural issues are raised by state efforts in competency based evaluation and assessment:

- Should we initiate competency based reform by legislative or departmental fiat or should we concentrate on building a supportive system of incentives and leadership (or both)?
- How can we avoid making competencies mere "add ons" and instead concern ourselves with strategies for enhancing the competence of the system as a whole?
- How can we be sensitive to the variety of consumers for the assessment and evaluation information at the levels of the classroom, the schools, the district and local school board, the local community, the state department, the state legislature, and the statewide public?
- At what level are competencies appropriately determined? (Perhaps a statewide or nationwide bank of common competencies and criteria is needed to support selective and adaptive determination at lower levels.)
- How can we avoid either educational faddism or over concentration on traditional basic skills to the exclusion of learning experiences less suited to the competency mode?

A Proposed Set of Criteria for Examining Functional Competencies

The primitive stage of our ability to define functional competencies and set performance levels is witnessed to in a number of ways, for example, (1) lack of common definitions for terms like "basic skills" or "survival skills" and (2) the inconsistent application of these terms to a common set of tasks. It is proposed that the processes of developing a classification system for defining competencies, developing measurement techniques and of setting proficiency levels can be aided by the systematic application of a set of criteria to a large set of proposed competencies. The rating of each task on each dimension will yield a fruitful data base for noting overlap and uniqueness among criteria--a necessary step in developing a classification scheme.

Accordingly, the following list of unrefined dimensions are briefly itemized below:

I. Measurement Considerations

A. Behavioral Domain

What aspect of the students' personality/behavior repertoire is being focused upon or is most critical to the solution of a given task? For example, different facets of the overall task of driving an automobile are differentially related to cognitive, affective or psychomotor capabilities.

B. Taxonomic Level (Cognitives)

Within the cognitive domain, can the task be classified according to a scale of complexity with each level being a prerequisite to the next higher level?

C. Knowledge Load -- Operations

Does the task require the student to recall certain facts, formulas or other information, or is all the necessary information provided, requiring the student only to apply the information properly?

D. Stimulus Characteristics

1. Mode

Is the stimulus primarily visual, auditory, or some combination?

2. Mark-Extended (Select-Construct)

Does the student simply mark on an answer sheet or perform a complex task?

3. Sequence -- One/Many Steps

Is the task basically a one-step task or a series of sequential steps?

4. Authenticity

Does the student respond in the same way (verbal and motor) that he would in performing the task in real life?

5. Individual-Group

Can the student perform the task by himself/herself or are others involved in completing the task, e.g., solving a math problem versus leading a group in solving a work related problem?

F. Position in Hierarchy/Sequence

Is the task at a basic level, i.e., is it low in the chain or hierarchy of steps, or does it assume the presence of a number of prerequisite skills?

G. Process -- Right Answer

Is the process used to complete the task considered part of the answer, e.g., following the six steps in locating the defective part of a generator, or is any approach to the final answer sufficient?

H. Band Width -- Fidelity (Simple-Complex)

Does the task measure a unitary, separate skill or the product of the interaction of a complex set of skills, in which case if the student fails the task the specific reason for failure is very difficult to ascertain?

I. Source of Support

Does the community support for such a skill reside in the more conservative traditional forces or in those of a more liberal bent?

II. Policy Considerations

A. Necessity -- Compensatable

How necessary is this skill or capability in life? Can it be compensated for by the substitution of another skill or the avoidance of the situation?

1. Life Role

What role would the person most likely be playing when using this skill?

2. What Level of Necessity

Is the skill necessary at a survival level or a higher "comfort" or "fulfillment" level?

3. How Demonstrated

How has the necessity for the skill been demonstrated, either judgmentally or empirically?

B. Opportunity to Learn Out of School

How great is the opportunity for the development of the skill out of school versus in a formal school setting?

C. Developmental Placement

Given no great instructional effort, at what age-grade level does the skill manifest itself? At what age can most students be taught the skill in a reasonable amount of time?

D. Forgetting Curve

Is this the kind of skill that vanishes rapidly without practice, or does it hold up well with little or no practice?

E. Average Time Needed for Mastery

How long does it take the average student to master the skill versus the slowest five percent of the students?

F. Means -- Ends

All skills are means to other ends, but some skills have more direct social utility.

G. Unique -- General (Transfer Value)

Is the skill rather unique or does it represent a broad scope of similar skills?

H. Value to Self -- Society

Is the ability to perform the skill primarily an asset to oneself or as much a benefit to others and, therefore, to society in general?

Texas: Charles Nix

In Texas, the term "need" has been used to designate a discrepancy between "what is desired or expected" and "what actually is," particularly with respect to student outcomes intended as a result of instruction. The simple algebraic expression below emphasizes this idea:

$$X - Y = Z$$

(WHAT SHOULD BE) (WHAT IS) = (NEED)

The term "assessment" or "needs assessment" has been used in Texas to mean the measurement and identification of discrepancies in student attainment. The term "evaluation" on the other hand, has referred to the study of how effective a program or instructional process is in accomplishing intended student outcomes. Typically, the term "assessment" is used with students while "evaluation" is used with programs.

In 1971, the Texas Education Agency tested approximately 22,000 sixth grade students in the areas of reading and mathematics. One aspect of this assessment was the identification of a set of objectives that could be considered basic -- that is, those pupils who mastered this group of objectives should be able to function at the consumer level of society. The tests used in the 1971 assessment were administered in later years on a voluntary basis by schools across Texas for classroom and school district planning. The statewide results of the 1971 assessment were used by the Agency to modify text book proclamations and curriculum guides.

The Texas Career Education Measurement Series (CEMS) was developed as a diagnostic measurement system for the area of career education. The CEMS system includes 17 measurement instruments with an Administrator's Manual, User's Guide, handscoring directions for each of the instruments, and an instructional handbook of Selected Learning Activities and Resources. These instruments are objectives based and appropriate for use in grades 7-12. The CEMS set of 17 tests was used in the 1975-76 school year to assess student performance in career education. A representative sample of approximately 20,000 ninth grade and 7,000 twelfth grade students was selected for this assessment activity to determine the status of students' performance in relation to the basic learner outcomes identified for career education. The assessment was guided by the following questions:

1. How well do ninth and twelfth grade students perform in the various domains of career education?
2. Are there noticeable differences in the performance of students of varying ethnic, sex, and grade levels?
3. How accurately does the survey test diagnose those student learning needs that require further investigation?
4. How useful is this kind of information for individual student needs and developing programs to meet those student needs?

There are specific requirements for assessment, evaluation, and renewal in the new accreditation process presently being field tested in Texas. Phase I of the process requires school districts to express goals and goal indicators. The student development goals serve as a foundation for all subsequent management functions. Phase 2 in the accreditation process is the self-study. This phase is an investigation of two different types of discrepancies:

1. What are the critical student learning needs?
2. What are the most significant discrepancies in the program that may be judged causally related to these student learning needs?

This self-study includes the following steps:

1. Conduct inventory of perceived needs.
2. Gather objective evidence to confirm or reject perceived needs.
3. Establish priorities among documented needs.
4. Compare program with standards and criteria.
5. Analyze relationship between priority student needs and program discrepancies.
6. List priority student needs and program discrepancies to be addressed by five-year plan.

Oregon: Walt Hathaway

Some Issues

The consideration of assessment of competencies raises serious issues. The first is technical. It stems from the fact that if we set forth a comprehensive set of graduation competencies many of them will not be objectively, validly and reliably measurable within the state of the art of psychometrics. Thus, we are tempted to place the burden of measurement on the teacher. But such judgment of competencies may be inequitable and may even suggest legal problems since students whose graduation is delayed on the basis of such "evidence" may challenge this decision in the courts.

Another critical issue is that of timing. Testing must be done, not just at the end of the school experiences, but in time to allow remediation. We must also consider whether a competency, once tested, is forever retained. Since we know achievement gains can "wash out" how should we plan testing to assure firm attainment of competencies?

Involvement

Probably the major benefit from CBE in Oregon has been the initiation of valuable dialogue among teachers about curriculum. It is, of course, absolutely desirable to get teacher contributions to areas for which they will be held accountable.

Students and the general community are of course involved too, and one of the things being studied in Oregon is how CBE involvement affects student attitudes and commitment to the learning experience.

The articulation among levels is both a major goal and potential problem. The development of competency "banks" of goal statements, test items, etc. can help greatly.

Program Support

The state agency and Oregon CBE Program provide a range of support services including an assessment program, technical assistance, training, a resource inventory, etc. These services are helping districts meet state assessment and evaluation requirements, including adoption of competencies, development of planned course statements, procedures for monitoring student progress, and program assessment. All districts have not responded in exactly the same ways, but, generally, they have encouraged broad involvement, the adaptation of an array of existing materials, tests, goal statements, etc., and the use of the state assessment program.

Abstract:

"The Adult Performance Level Project"

Norvell Northcutt

The APL Definition of Competency Based Education

CBE is an explicit description of the educational outputs (competencies) which have high social utility or functionality. Competencies differ from developmental skills (such as reading for main ideas) in that they address skills needed for functioning outside of the educational setting (such as reading a rental agreement).

CBE also presents a different relationship between time and achievement. Achievement levels (minimums) should be constant, while time requirements are variables. It is presently the other way around, with Carnegie units held over from the day when education was seen as a continuum ending in college.

CBE, however, is a control system in which student progression is dependent on demonstrated mastery.

APL Purpose

The central objectives of the project are to specify the competencies which are functional to economic and educational success in today's society, and to develop devices for assessing them in the adult population of the U.S.

Methods

In order to determine basic requirements and the basic performance criteria, and to determine levels of competency, the project pursued four lines of research simultaneously:

1. Review of related literature and research
2. Survey of state and federal agencies and foundations
3. Regional conferences on adult needs
4. Interviews with under-educated and under-employed adults

These activities resulted in a taxonomy of adult needs -- "general knowledge areas," including:

1. Consumer economics
2. Occupational knowledge
3. Community resources
4. Health
5. Government and law.

Next, four skill areas were identified:

1. Communication
2. Computational
3. Problem solving
4. Interpersonal.

APL findings, then, resulted in a theoretical construct of adult functional competency which is described as a matrix in which all knowledge areas cross all skill areas -- it is this gestalt, in societal context, that defines functional competency.

The final step in the APL research process was to determine national levels of performance with regard to the objectives.

Abstract:

"The New York State External High School Diploma Program"

Ruth S. Nickse

The New York State External High School Diploma Program is a new competency based, applied performance assessment system which rewards competent adults with a local high school diploma for the demonstration of required competencies regardless of where, when or how they were learned.

Although the diploma must be awarded by a local school district, assessment can be conducted by trained personnel at many sites comfortable and accessible for adult learners, such as BOCES, libraries, YMCA's or adult education centers.

The new assessment system, designed as an alternative to existing credentialing opportunities recognizes two kinds of competencies: Generalized Competencies in Life Skills' areas of math, reading, consumer, scientific, citizenship, health awareness and occupational preparedness; and Individualized Competencies in areas of occupational/vocational, advanced academic and specialized skills such as music, art or photography.

To complete requirements for the Generalized Competencies area, candidates must demonstrate sixty-four Life Skills competencies through performance of five tasks which are problems in adult life common to us all (find a new place to live, search for a job, make an informed consumer purchase). Three of the tasks are take-home projects and two are structured oral interviews, designed to elicit the required 64 competencies. Unique characteristics of the assessment system, designed to meet the needs of busy working adults are these: It is an open-testing technique, characterized by flexibility in time and location of testing, using oral as well as written communication modes, with explicit understanding and open discussion of required competencies, and continuous feedback on progress. The assessment system, designed to be instructive, forces candidates to use both human and community resources to achieve solutions. The philosophy of the program emphasizes that assessments of competency are most valid when the test environment is as close to reality as is possible.

The individualized portion of the assessment program requires the candidates to pick one of three options, and document their competence.

In the Occupational/Vocational option, a candidate may present evidence of entry-level job skills in three ways:

Verification by the employer of 12 months of employment at the same job; proof of certain current New York State occupational licensing; or demonstration of skills through an on-the-job performance test. A master craftsperson supervises and evaluates a candidate's performance. To date, 35 different performance checklists have been developed in such diverse occupations as small business management, nurse's aide, TV repair and home management.

As an alternative, candidates may choose to demonstrate advanced academic skills. The criteria for evaluation of this option was developed by admissions directors of local colleges. The candidates complete a portfolio which contains selected pieces of evidence attesting to the feasibility of their educational objectives as well as evidence of their ability to do college work. This evidence may be a product judged by experts as an example of their college level ability, or acceptable scores on a standardized test.

For the candidate who wishes to document other types of skills, such as those of community activist or musician, documentation of competence is required as well as judgment by an expert in the field.

By August 1976, 125 adults, average age 38, and residents of a five county area around Syracuse, had earned a City of Cortland, New York high school diploma. Currently, about 90 adults, ranging in age from 18 to 71 years, are involved in the self-paced assessment process. A study of the first 50 graduates indicates those attracted to such a program are men and women employed in a variety of occupations. There are insurance and car salesmen, paraprofessionals (in teaching and health related fields), deputy sheriffs, home managers and security guards. Their motivation is high and the attrition rate low (about 15.8% fail to complete the program). Their reasons for desiring a diploma are varied: for job mobility, college entry, and for self-satisfaction.

Data collected each month from adults who have earned a diploma in this fashion documents their approval of this action-oriented, applied performance, reality-based assessment as a true test of their abilities.

Best of all, a continuing one-year followup study confirms the fact that, even after the glow of receiving a long sought credential wears off, lasting effects on lives are evident. Graduates report, one year later, increased access and interest in a continued learning, job promotions and raises and increased self-esteem and self-confidence. When asked if, given the opportunity, they would "bother" to earn their diploma in this way again, 100% responded "yes!"

Further information about the program is available through the Division of Adult and Continuing Education, State Education Department, Albany, New York.

Abstract:

"California High School Proficiency Examination"

Don McKinley, Alex Law

California law requires all young persons not otherwise excused to attend school until they graduate from high school or turn 18, whichever occurs first. Beginning in 1973, the Legislature enacted a series of bills which established the California High School Proficiency Examination program. Persons of school age who pass the exam, now open to adults as well, may leave school immediately thereafter if they present verified parental permission. All persons who pass the exam are awarded the Certificate of Proficiency, which is equivalent to a high school diploma under California law.

The Legislation establishing the CHSPE intended that the CHSPE test basic educational skills, not those skills typically measured by survey achievement test batteries. The examination uses pencil-and-paper applied performance items, rather than items intended to be generally predictive of academic performance.

In brief, the CHSPE is designed to verify language use, computation/quantification, and practical reasoning skills. Questions on the exam are cast in terms of various elements of the standard curriculum and of everyday situations, but these terms should not be taken to mean that we are measuring anything other than the foregoing skills. Almost none of the questions call for recall of facts which are not contained within it. The fundamental rationale is that a student who possesses the basic skills, has the tools necessary to learn whatever he, or she sees the point in knowing -- whenever he or she sees it.

The minimum passing score on the CHSPE is set at the average performance level of second-semester twelfth graders, as initially determined through field testing in a selected sample of California high schools. This level is revalidated through inclusion of items from our statewide testing program which thereby have known values for California twelfth graders. The CHSPE was not designed as a diagnostic instrument and yields no subscores.

Skill areas include the following and are subdivided into communication skills and problem solving:

Basic Skills (context free)
Career and Occupational Development
Consumer Skills
Social and Natural Sciences

INVITED ADDRESS:

"Task Force '74 Revisited"

B. Frank Brown

TASK FORCE '74 UPDATED TO INCLUDE COMPETENCY BASED EDUCATION

The Alienation of People From Their Institutions

Since the schools are a mirror of society, we cannot put educational reform in its proper perspective without a brief look at critical social problems. This is especially true of competency based education, as there is considerable evidence that this reform is a manifestation of deep-seated social concern over problems in contemporary society.

What is the social milieu of competency based education? At this time in history, we are witnessing a massive disenchantment of people from their institutions. Evidence of this disaffection is seen in public opinion polls that reflect a lack of confidence in both institutions and government. Documentation is found in a sinking voter registration and decreasing participation in civic affairs.

The causes of disillusionment are varied and complicated, extending across the entire range of political and social life. In the process of analyzing the significant contemporary social problems which are spawning the competency movement, I compiled a litany of the reasons why people are disenchanted with their institutions.

Address given by B. Frank Brown, Thursday, July 15, 1976 at the Council of Chief State School Officers conference on Competency Based Education as a Strategy for School Reform, Denver, Colorado. Dr. Brown served as director of Task Force '74, established by the Charles F. Kettering Foundation through its educational affiliate the Institute for Development of Educational Activities, Inc. He is director of /I/D/E/A/ Information and Services Program, Melbourne, Florida.

A breakdown of the causes of the dissonance include the following:

(1) the relentless growth of government over the past decade and the corresponding decline in the quality of government

(2) the lack of constructive approaches to the problems of inflation and energy

(3) the inability of the country to deal with the galloping increase in crime

(4) the disaffection of young people with the rigidities of tradition

(5) the enduring public reaction against the more outrageous aspects of student unrest in the 60's

(6) a persisting guilt over the decade of mistakes and failures in Vietnam

(7) a gnawing sense of dissatisfaction with the Watergate episode and its implications of immorality at the highest level of government

(8) the revelation of violations of individuals' rights and privacy by the CIA and FBI

(9) arbitrary powers exercised by bureaucrats over the private sector

(10) illegal business transactions by multinational corporations

(11) a feeling that bureaucrats and elected representatives do not comprehend the changing values and aspirations that have overtaken the country

(12) a host of minor issues involving consumers and the environment and related to the quality of American life

(13) a feeling on the part of the people that they are unable to influence the things that are happening to them.

This litany of the causes of disaffection can be epitomized by an analysis recently made by Harvard sociologist, David Reisman, for the New York Times. According to Reisman, "There is a feeling that the country isn't worth much. It is racist, sexist, imperialist. It reflects a despair and there is no search for a usable past."

Now that I have epitomized the societal setting, let us turn to the reform of competency based education which is an outcome of society's disaffection from education.

Recently, a member of the Florida legislature telephoned me and started the conversation with, "Frank, what in the world is competency based education?" I found to my discomfiture that I could not explain it in a sentence--or even a paragraph. I had to grope for ten minutes through the ground fog of educational prose commonly called pedagese.

When we talk about results based learning, we need to do so calmly--using clear, ordinary language, not arcane jargon or nebulous rhetoric. So, to be certain that you and I are communicating, let me set forth my definition.

Competency based education is a process in which someone compiles a series of curriculum objectives and states them in measurable terms. The intent is to be able to precisely measure what a student has learned.

Please permit me to express my absolute disenchantment--no, I need a stronger term--my intense dislike of the phrase "competency based education." Not only is the term completely lacking in panache, it has a kind of tedium about it. Furthermore, I can present a strong argument that all education is competency based and what we are calling competency based can be better described as circumscribed learning, itemized learning, specified learning, detailed learning, or--put more simply--educational conditioning.

The notion of outcome based education, which was just a whisper when Task Force '74 examined the schools two years ago, is today a very loud voice. Furthermore, I can predict with a reasonable degree of sanguinity that the spread of outcome based learning is now accelerating to the point where it will shortly become the major school reform of the 20th century.

When Task Force '74 made its study of school reform, we concluded that education has been moving toward a competency base for at least ten years. Our analysis indicates that it began with programmed instruction and moved from there to behavioral objectives and an emphasis on accountability. These earlier movements are now heavily laced with the current interest in competency and outcomes.

The high regard that legislators have for the new emphasis on functional literacy is seen in the recently passed Florida law on competency which states--and I quote--"...basic skills development programs shall be the first priority of the Florida public schools."

When I talk about minimal competency becoming a major school reform, I am not referring only to the high school, but to all levels of education. The emerging competency based programs focus their emphasis on the mastery of essential skills--before a student can be promoted from the 3rd, 5th, 8th, and 11th grades.

There are some tragic consequences to testing for minimal competence--the most obvious of which is the withholding of the high school diploma in some state plans. The subsequent effect this has on a student's future can be disastrous. This is an issue which we have lost sight of in the rush to climb aboard the competency based bandwagon.

While some aspects of a narrow competency based reform give cause for alarm, no one can quarrel with the purpose of the movement. Expressed simply, the intent is to help all students achieve minimal competency at certain levels of development.

One question that is bound to come up many times is the issue of just what is minimal competency? Practically all definitions include proficiency in reading, writing, computing, and problem-solving skills. Today, in addition to the three R's, I am going to add a fourth R--the R of responsibility. I do this because if we are to solve the problems of society, then we must provide competent education for responsible citizenship. Responsibility also includes a sense of discipline; discipline developed from an appreciation of universal ethics and values. There is growing evidence that society first expects from the schools order and safety. Next in line comes essential skills, with the emphasis on literacy.

The unknown factor in outcome based education is the problem of what to do with students at the extreme ends of the scale--those who fail the high school tests and those who pass with flying colors. The two most talked about alternatives are: for those who fail the tests to receive a certificate of attendance or differentiated diploma; and those who pass with high marks be given an "early out." Those who oppose the "early out" approach argue that "early outing" will make the community colleges the high schools of the future, with students as young as 14 years of age opting for "early out" and community college admission.

The big perplexity is: whether to continue to issue the conventional high school diploma to everyone on the basis that it demonstrates 12 years of study, or restrict the diploma to those who achieve a minimal level of competency. If awarding the diploma becomes restricted, those who do not reach the established level of competency will receive a certificate of attendance which educators are trying to dignify by calling a differentiated diploma.

Because of the stigma attached to a differentiated diploma, many educators deplore legislatively mandated minimal competence requirements; but there has emerged one very positive outcome from this action. That is, the early identification of students who have not achieved a minimal level of fundamental skills. While this is widely recognized as a significant outcome, in order for this identification to be beneficial it must be followed by a concerted effort to bring these skills up to an acceptable level.

The reason you and I are at this conference is because state departments and legislatures throughout the length and breadth of the land are responding to the notion of minimal competency at an alarming rate. The picture is such a fast-moving scene that it is almost impossible to keep up with it on a national basis.

What is causing this reform to move with such rapidity? The concern about minimal competencies is directly traceable to three things: (1) the vast amount of illiteracy (2) alarm about declining test scores (3) the new conservatism which is sweeping the country. The conservatism is evidenced by the alienation of people from their institutions which I described earlier, so let me speak briefly to the drop in learning.

The matter of declining test scores is not an American problem. It is a worldwide phenomenon. Last month while I was in Tokyo, the Japanese teachers' union was lamenting the fact that "Japanese school children are inferior in reading, writing, and arithmetic when compared with boys and girls in the prewar and post-war periods."

In Britain, a group of national leaders is so alarmed about the decline in achievement there that they have issued a series of Black Papers critiquing education. To quote from the 1975 Black Paper:

> "...surveys of reading standards of 11- to 15-year-olds indicate that literacy is declining....Industry complains of increasing innumeracy. Some 650,000 children play truant every day from our schools, and teachers flee from city schools because of resistance to lessons and insolence by the pupils."

The downward trend in learning has disturbed British educators to the point that they are organizing a national assessment of educational progress patterned after ours.

Epitomized, we are confronted with a universal crisis in education caused by a general decline in learning. From the third world, Julius Nyerere recently called Tanzania's education system to task for "...divorcing its participants from the society which it is supposed to be preparing them for." From Uganda, Senteza Kajubi has raised this question: "Is the school an obsolete institution?" The Italian school system has been subjected to sharp criticism by Italian peasants who allege that "School is a hospital which tends to the healthy and rejects the sick." A Yugoslavian commentator recently charged, "Children come to school ignorant and curious! They leave school still ignorant but no longer curious."

While some 40-odd reasons can be identified as possible causes for the decline in learning, I think it is clear that the real culprit is television. As a consequence of the enormous exposure to television, we are moving from a type of learning which has been book-oriented to visual learning. The extent of this shift is seen in television statistics which reveal that by the time an American youngster graduates from high school he has spent 15,000 hours viewing television and only 12,000 hours in school. Epitomized, television now occupies more of the waking hours of children than any other single influence--including schools and parents.

I, personally, think that television is guilty of much worse sins than contributing to a serious decline in learning--but that is another talk altogether! Let me just call your attention to research which shows that 18-year-olds in the United States have seen 350,000 television commercials urging them to want something; and by the time a child finishes junior high school, he will have witnessed

12,000 acts of violence, murder, and mayhem. And we wonder why crime is increasing in society along with juvenile violence and assaults on teachers!

Incidentally, you may not be aware that between 1960 and 1974, juvenile arrests jumped by a whopping 138 percent; and last year, 14 out of every 100 juveniles were arrested. This factor alone is more than justification for including the concepts of citizenship and responsibility as the fourth R in the basic competencies which we expect of all Americans.

Now, let us turn briefly to the other factor which is propelling the reform called minimal competency. That is, the new conservatism which is abroad in the land. Last week in a conversation with George Gallup about the soon-to-be-released 1976 Gallup Poll on Education, George pointed out that the new poll strongly reflects a growing conservatism toward education. He interpreted this as an extension of the rising conservatism in the country which is seen politically in the successes of Jimmy Carter and Ronald Reagan.

The establishment of minimal skills seems to be a reflection of this same conservatism. It is also a reaction against fuzziness, permissiveness, and excesses in school programs.

Let me emphatically point out that the public schools are not the only institutions which have engaged in excesses. In 1975, a whopping 84 percent of the graduates from Harvard graduated with honors. In brief, there seems to have been a universal retreat from structure and standards at all levels of education. This is reflected in statistics showing that while College Board scores have been going down, the grades of college students have been going up. So, while students have been learning less, they have been making better grades. Grade inflation is a phenomenon we do not need.

On the subject of colleges, there are strong indications that results based education, which is so profoundly influencing elementary and secondary education, will eventually reach and affect colleges and universities. You may have seen the recent news item reporting that Yale had rediscovered the "F." This may be just the beginning of a higher education movement toward competency learning.

While Senator Birch Bayh is not one of my favorite politicians, I emphatically concur with his recent defense of education which is the best I have heard! As Bayh put it:

> "I cannot agree with the apostles of gloom and despair who tell us that we are poised on the brink of a declining era in American education, marked only by the burnt-out hopes and fading dreams of an institution that tried to do too much."

In conclusion, let me reiterate the trend in Task Force '74's analysis of school reform which indicates that CBE may well become the educational reform of the century. Admittedly, increasing numbers of people are disenchanted with their schools as well as other institutions, but competency based education may provide the vehicle by which we can overcome the feeling of lowered expectations for education and bring the schools back to their rightful place as respected and revered institutions.

CONCLUDING ADDRESS

"Implications for Research: A Sociologist's Perspective"

William G. Spady

I approach the phenomenon we have been calling CBE from a rather different perspective than most of you. It is, to some extent, from the "ivory tower", but it is, more than anything else, the perspective of a sociologist committed to examining the social organization of schools and classrooms and the social organization of school systems, as systems. I am trying to understand how the whole complicated set of organizational factors in schools (including mixes of people, time resources, and space) generate a lot of problems that must become the daily problems and concerns of those who must administer, guide, and direct school systems.

I was impressed a few years ago by the research involving the concept of mastery learning and the potential that mastery learning seemed to have for disentangling some of the structural problems of schools and, to some extent, the critical social psychology of the student in the learning act and the teacher in the teaching act.

Since I find competency based education to be a first cousin, if not the twin brother or sister, of what is meant and implied by mastery learning, you also need to understand that my approach to CBE is based on both considerable familiarity with the literature on mastery learning, and a number of fundamental assumptions that guide mastery learning applications and research. The Carroll Model (1963) and its notion of defining learning by making standards fixed and time flexible rather than the current, conventional reverse practice in most school systems (that is, fix time and then end up with highly variable, and often very unsatisfactory kinds of standards) is central to both CBE and ML. (See Figure 1)

Figure 1

TIME

STANDARDS	OPEN, FLEXIBLE, FIXED	
Criterion Based	C B E	
Comparative, Variable		Regular School

My concern with and conception of CBE emerges from a third, very personal perspective which I openly acknowledge. It is here the dispassionate scientist, critic, and thinker leaves off and the more concerned personal individual takes over. I have been able to spend a lot of time in the last several years in the company of school teachers, students, and administrators in schools talking about what is really going wrong that has gotten so many people uptight or frustrated about being or working in schools. The frustration and disillusionment of students seems to focus on a lot of the teaching they experience, the fundamental issue of control, and the way they are treated. In other words, these concerns really come down to the relationship between the instructional mission of the school and its custodial and control missions. I see CBE as a potential vehicle for dramatically redefining these relationships and perhaps disentangling some of their most problematic aspects.

So my remarks do have a reality base and are not totally "ivory tower", and I am trying to be as honest intellectually in analyzing the implications of CBE for organizations as I can. However, you do need to understand the strong personal concern and bias I have about reform. In taking that concept seriously, I conceive and encourage a conception of competency based education which included many of the different issues that Dale Carlson listed in his presentation yesterday and that we have been discussing throughout the conference. My definition of CBE and some of the other ideas I want to share with you are neither the only ones nor the only good ones that could be offered. Neither are they exclusively my own because they were gathered, tested, over the past two years and accumulated against the opinions, scrutiny, and very tough dialogue of a lot of very well informed people around the country. So I am standing in a sense as a spokesman both for my personal point of view, and for a number of similar viewpoints. CBE, then, is seen here as a potential tool for fundamental school reform, but to make it a real tool for reform requires facing and solving some enormous organizational as well as technical problems.

When we talk about school reform, we are dealing with more than just innovation or the change of any given component or element in the system. Reform implies fundamental change; change that is major and far reaching. I think that to have what is truly a reform, those changes need to impact, deal with, and include the following five things: (See Figure 2)

1. Reform really involves a fundamental restructuring, and reallocating of the kinds of resources that the system has at its disposal. In terms of competency based education this means drastic restructuring of one of the system's most critical resources: time. CBE also means restructuring of staff, the use of space, instructional experiences and the context in which everything "educational" goes on.
2. There is a fundamental change in the nature of the content of instruction, or the outcomes of instruction; i.e., that which we ultimately want to affect. I do not regard the retreat back to basic education as a fundamental change in content nor do I think that the retreat back to basics is a useful way of dealing with CBE as a reform, at least if you accept these criteria.
3. Reform implies to me a new distribution and change of power in the system, and in decision-making in the system. Who makes what kind of decisions about what will happen, and where the fundamental power resources lie that constrain people's behavior, choices, and rewards will change as a result of CBE.
4. Reform also implies a fundamental change in the operational functions of schools. I have been developing, refining, and using a framework for analyzing the essential and fundamental functions that schools perform, and will share it with you momentarily.

5. Reform, perhaps more than anything else, really implies a change in the pattern of access to and outcomes of schooling. Who gets what kinds of opportunities while in school and what the consequences of those opportunities will be for students once they leave the school system are issues of great concern to all citizens. Most of the "school reforms" that have been discussed in the European countries have centered more around the latter aspect of this question rather than on the nature of and real need for the severity of selection in European systems; in other words, who gets access to the limited opportunities for elite secondary school training in those countries. I am suggesting that CBE as a potential reform needs to be examined in light of whether or not it really speaks to those five different arenas.

Figure 2

REFORM IMPLIES MAJOR CHANGE IN:

1. Structure and allocation of Resources.
2. Content of Instruction.
3. Distribution of Power and Decision-making.
4. Operational Functions of schools.
5. Patterns of Access to and Outcomes of schooling.

There are five basic operational functions that school systems perform in dealing with their students, and virtually all schooling practices in one way or another reflect elements of these functions (See Figure 3). I see these functions emerging out of largely explicit, yet sometimes only implicit, societal demands on school systems to do various things to and for students.

The first of these demands, and the most obvious, is that of technical socialization. One major assumption underlying the concept of socialization is that the student is an inadequate social being and, therefore, needs socialization to make him or her a more adequate one. That student or person who is thought to be inadequate technically is to be brought up to some kind of level of technical capacity, competence, or ability that allows for adequate functioning in the larger social system. We respond as such systems to this demand for technical socialization with a system response that puts in the place a whole program of instruction.

I hardly need mention the struggles and problems that you as adminstrators encounter in the area of curriculum change; but I have observed that rather than instruction being the central focus of real school system problems, dilemmas, and conflicts that the real locus of that concern may be in the second of the arenas -- that is, what I call moral-relational socialization. This element of the socialization process emphasizes turning this inadequate human being, or social being, into one that is acceptable to the social groups that

FIGURE 3

FIVE FUNCTIONS

SOCIETAL DEMAND	SYSTEM RESPONSE
Technical Socialization	Instruction
Moral-Relational Socialization	Acculturation
Custody	Control
Certification	Evaluation
Placement	Selection

it will have to deal with. That means shaping values, attitudes, and expectations, teaching roles, influencing self concept, motivation, one's sense of independence, and the whole variety of things that makes one a social being. This is often where the real struggles in school board meetings occur. What kind of social being should students become, and whose ideology, whose values, whose concepts of the good person is going to emerge out of the training and education that we do? The school's response to these demands I call the acculturation function.

A third fundamental demand on the part of society, and the one that got me really interested in the work that I am doing now, is the demand for custody -- the fact that the school has to keep those kids off the street, out of the labor market, out of trouble from 8:00 until 3:30 in the afternoon, 5 days a week, 9 months out of the year. The school system responds to this demand for custody with a whole range of mechanisms involving control that I believe represent the tail that is wagging the dog of education. Our obsession with control and the necessity for it is the preoccupation of many people in school systems. I think that CBE really implies a major alteration in the nature of both these custodial and control syndromes.

The fourth major demand on the part of the society is for certification of all three of the foregoing. Presently, we are certifying that students have been in school 12 years, so we are certifying custody. We are not doing terribly well in certifying the results of technical socialization (or instruction) otherwise we wouldn't have this famous CBE movement responding to our not knowing what the kids know; so we go "competency based." The very things that Frank Brown was talking about yesterday is evidence of the inadequateof our inability to certify in a reliable and useful way the products of both instruction and acculturation; but we do know that they have been there 12 years. Formally, however, the school system responds to this demand for certification with a function of evaluation which really underlies the system's capacity to certify.

A fifth major demand is that a placement, putting the students into those slots of society that serve at least as their short-run social destinations: either higher education or community college education, training of some other kind, the military, or the labor market. The school system handles that demand by creating its own internal processes of selection, putting students into different kinds of tracks, different kinds of programs, different currricula that will ultimately lead to those different kinds of outcomes once those experiences are certified.

My contention is that competency based education fundamentally alters the definitions and inter-connections among those five functions such that the way we do each of them now is not the way they will remain if we put CBE in place. To get the school to fundamentally alter those functions may be the toughest of all possible tasks. This is the starting point for my analytical framework, and these are the kinds of biases and concerns that I have. What follows reflects these ideas.

'In order to suggest a possible definition of what CBE is, I first of all need to mention what CBE isn't (See Figure 4). As I use the term here, CBE is not Competency Based Teacher Education. When we talk about applying the concept to elementary and secondary schools, the models that we have of CBTE, as varied as they are, may be useful, but they are certainly not identical.

Second, I think CBE is not just basic skills.

Third, it clearly is not just exit examinations. Exit examinations are examinations; and they might be called something like Competency Based Certification (CBC), or they might involve Competency Based Measurement (CBM), but they are not competency based education. I think that CBE

FIGURE 4

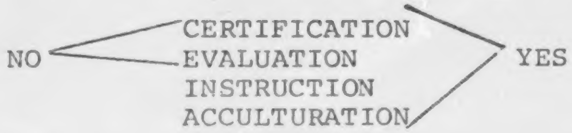
CBE ISN'T

CBTE Exit Exams	Paper-Pencil Tests

CBE IS:

OUTCOME GOALS
INSTRUCTIONAL MEANS
EVALUATION MEANS

Explicit
Known
Agreed Upon
Integrated
Reflect Life Roles
Allow Choice
Data Based
Adaptive



challenges the notion and validity of paper and pencil tests as measuring the kinds of things that we want as outcomes, particularly when you move away from the basic skills arena. Those of us who worked through these problems over the last year or more and groped for a satisfactory definition must parenthetically agree with Walt Hathaway: there isn't a perfect definition of CBE. We haven't agreed on a fundamental definition of CBE, and we certainly haven't agreed on the fundamental kinds of competencies that it might refer to. Furthermore, we certainly don't know how to measure all these things.

Nonetheless, I would like to offer a reform-oriented conception of CBE that suggests that there are three critical elements that must be put in place, and that each of those elements share a number of things in common (See Figure 5):

1. There need to be outcome goals;
2. There need to be instructional means put into place that are highly responsive to those outcome goals;
3. There need to be evaluation means, techniques, procedures, etc., in place that are responsive both to the outcomes goals and to the instruction the student receives.

Each of these (the outcome goals, the instructional means, and the evaluation means) first of all need to be explicit and clear concerning what they are all about.

FIGURE 5

FOUR BASIC ELEMENTS

1. Specific Outcome Goals
    - A. Agreed Upon
    - B. Explicit, Criterion Based
    - C. Known By Student
    - D. Shape Instruction, Evaluation, Certification
    - E. Reflect Life Roles
2. Instructional Means for Reaching Goals
    - A. Explicit and Known
    - B. Allow Maximum Choice and Flexibility
    - C. Closely Integrated With Goals
3. Means for Evaluating and Certifying Goals
    - A. Explicit and Known
    - B. Criterion Referenced
    - C. Allow Maximum Choice and Flexibility
    - D. Repeatable Opportunities
4. Continuous Data-Based Program Evaluation and Adaptation

MAJOR POWER, AUTHORITY ROLE, STRUCTURAL CHANGES IMPLIED

Second, and this is fundamental and where we encounter the control issue, is that all three need to be known. The outcome goals need to be known to the students, as do the instructional means that they will experience also need to be known. Fundamentally, CBE should take the surprises out of education.

Third, these three sets of things need to be agreed upon rather than "laid on." I think a process of consensus building around both the goals and the means to be chosen for evaluation and instruction is something in which all parties (teaching staff, students, parents, as well as policy makers) must participate.

Fourth, I have already made the point that these three elements need to be closely linked and integrated with each other. You don't teach one thing, give a test on something else, and then claim that you have met a goal that is yet a third thing.

The fifth thing that these three elements have in common is that the goals and the means for both instruction and evaluation need to reflect life roles that are not narrowly conceived but broadly conceived. I shall amplify on this point shortly.

Sixth, these elements need to allow choice in the sense that there need not be only one way of obtaining instruction to pursue a given goal, nor must there be only one basic set of means or techniques for evaluating students in relation to those goals. There is a major criticism and fear around the country about CBE that regards it as narrow, inflexible, potentially rigid, and mechanistic. Other "complimentary" words like "fantastic," have also been applied since CBE is represented as:

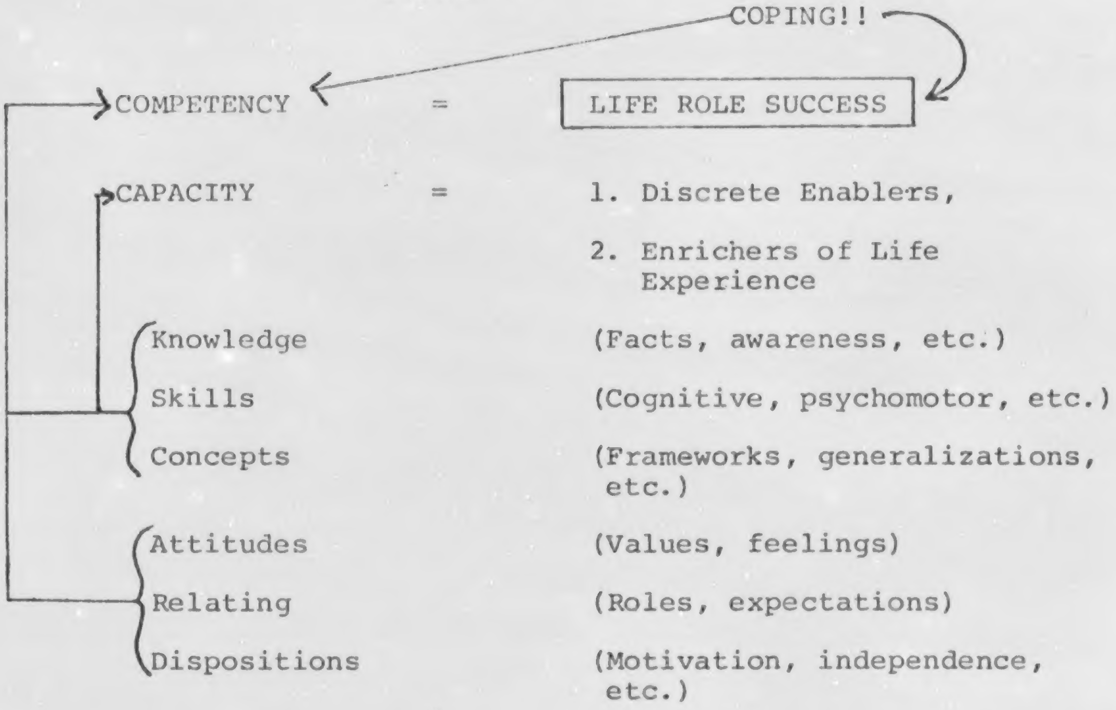
1. only involving a very limited set of outcome areas, and
2. being totally deterministic and not allowing multiple avenues for getting there. If CBE is ever going to be represented as a mode of education that escapes those labels, then multiple alternatives for means of instruction and means of evaluation need to be established.

The last basic thing that applies to all these elements is that CBE must be a data-based adaptative system. The accomplishments of students become the bases of program decisions: how you may need to alter goals, how you may need to alter instructional means, and how you may need to alter evaluation means. CBE really requires that you pay a lot of attention to the data that you are generating in your program as a basis for evaluting how it is progressing. By way of summary, this reform conception of CBE does not involve just certification and evaluation, it is not just performance based testing, it is not slapping tests on at the end of school years just to see if students are meeting some normative-referenced objective. Instead it involves a complex integration of instruction, evaluation, and acculturation. If you haven't an instructional program in place that involves the elements just discussed, then I don't think you have CBE. You have something, whatever name may be appropriate, but it shouldn't be called CBE.

In this regard, I would like to elaborate on the distinction made earlier about life roles. Again, you may not agree with my terminology, but it is the idea that is important. A competency is the ability to demonstrate success in some kind of life role activity (See Figure 6). Let me emphasize that this can be a life role not only involving the role of student or learner, or the role of worker or producer, but critical social roles such as parent, intimate friend, citizen, the individual in the social and natural environment, and things similar to those addressed by the Oregon competencies. There is something implied about the demonstration of success in these life roles that is critical, and that is that the individual needs to cope with the social and contextual circumstances that impinge on each life role. Competencies are distinct from what I have called capacities. Capacities I see as more narrowly defined, discrete building blocks and enablers of competencies. They are the specific reading skills, math skills, kinds of facts, or manual and psychomotor skills, whatever it might be, that one needs to synthesize, aggregate, and use in carrying out a life role. I think that schools currently orient themselves almost exclusively towards the development of capacities, and I am not saying capacities are bad, since you are not going to have competencies without them. What I am suggesting, however, is that to shape and measure competencies, you have got to go far beyond what you require for capacities.

There is another element that is a part of the current

FIGURE 6


COPING!!
COMPETENCY = LIFE ROLE SUCCESS
CAPACITY = 1. Discrete Enablers,
2. Enrichers of Life Experience
Knowledge (Facts, awareness, etc.)
Skills (Cognitive, psychomotor, etc.)
Concepts (Frameworks, generalizations, etc.)
Attitudes (Values, feelings)
Relating (Roles, expectations)
Dispositions (Motivation, independence, etc.)

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philosophical and political dialogue about competency based education, particularly in terms of the way that it is moving down the narrow path of basic skills. That is, that many people are justifiably questioning what will happen to all these things that we try to teach in school that are mainly enrichers of life experience. I am arguing here that there are kinds of capacities that are enrichers of life experience that are valuable to teach but which may have little practical application. I don't think that a program of competency based education, as much as it needs to be focused on the notion of life role success, should become blinded to these qualitative elements of human experience. Among others, the poetry and English teachers in the United States distrust the term CBE because they think that it is going to eliminate the teaching of these more refined ways of appreciating literature and other aspects of aesthetics. We don't have to eliminate those kinds of things in the CBE program; we merely have to be explicit about where they fit into the overall thrust toward life role competencies. I am suggesting, then, that we have two fundamentally different kinds of capacities that we need to be worrying about (i.e., enablers and enrichers). But if we want competency based education, rather than capacity based education, then we've got to deal frontally with the issue of how you go beyond teaching just capacities in the classroom to a broad base of life role coping skills and life role competencies.

In using the language of my previous framework about the five functions, I see three primary arenas of instructional outcomes that schools essentially handle in capacity terms, these I call knowledge, skills and concepts. The bottom half of the previous diagram indicates the domains that I think that these terms represent. But whether these instructional outcomes get translated into competencies or not depends on the utilization of three different kinds of acculturation outcomes. That is, in order to make a capacity work in a life role and to deal with the social structural problems that bear on that life role requires exercising attitudes, abilities to relate, and the use of one's basic dispositions, such as motivation and independence. These latter three domains are critical in creating a social being. So, introducing the notion of competency into the curriculum forces the school to be much more explicit about its acculturation outcomes than it now is. For example, Frank Brown talked yesterday about the fourth "R" of responsibility. That is an acculturation outcome. If responsibility becomes one of the critical elements in ultimately demonstrating a competency, then we are going to have to be very explicit about what we mean by responsibility. We are going to have to put our value biases regarding attitudes, relating, and dispositions into the open; rather than keeping them implicit, we will have to make them very explicit. In addition, when dealing with instructional outcomes, you can't overemphasize the life role success notion as distinct from discrete enablers, and the emphasis on the difference between competency based education and capacity based education.

If you are still willing to accept the notion of competency based education after all of this, then there is a set of CORE PFACS (facts) which you will also have to encounter in implementing the kind of open time frame competency based program I have just suggested (See Figure 7). This involves solving four major problems that I want to mention briefly. First, CBE involves an enormous amount of coordination of the time and efforts of teachers and students (who is going to be where, who is going to be doing what, when, etc.) that is different from and far more complex than the sort of coordination problems that we face now. I think CBE fundamentally breaks down a lot of the limitations of the individual classroom just as it breaks down the nature and use of time

FIGURE 7

CBE IMPLEMENTATION

COORDINATION		STAFF RESOURCES STUDENTS
OWNERSHIP		PROGRAM GOALS COMMITMENT
REWARDS	-	For risks, endeavor
EXPERTISE	-	Heightened Demands
POWER	-	Technical, Contractual, Moral, Psychological
FUNCTIONS AUTHENTICITY		Authority Legitimacy
CONTENT	-	Curriculum
STRUCTURE	-	Regulations, Mechanisms

in such a way that coordination problems are going to be enormous. We need to anticipate these and we need to be preparing ourselves for the heightened demands on administrators and staff that they imply.

Secondly, I think the element of ownership is absolutely critical in CBE implementation -- that is, school staffs as well as students have to have some feeling that they cannot only live with CBE, but they have made a contribution to creating it. CBE is not going to be successfully "laid on" through state mandate alone, because it is too complicated for state mandate and regulations to implement. A state mandate can only say this is what you should do, but to make it happen you have to solve a range of organizational problems that ultimately involve people's cooperation and willingness to change. One of the critical obstacles to that is either the existence or absence of a sense of ownership on the part of the school people to what is supposed to be going on.

Third, I think that the kinds of rewards that we are going to have to offer school system personnel for going through the fundamental role changes and enormously more complicated kinds of things necessary for putting this sort of model into place need to be rethought.

Fourth, CBE is enormously demanding of people's time, attention, intelligence, and technical resources -- which is what I mean by expertise. The ability to formulate good outcome statements, to build instruction around them, and to do really good competency based or capacity based evaluation -- all of these things involve kinds of technical expertise that Oregon and other places are finding is not present in local systems. So CBE policy makers face enormous expertise demands that will have to be solved in some way (along with coordination, ownership, and rewards problems) as preconditions to getting implementation going and having it stick.

I am further suggesting, then, that what emerges from CBE in terms of the PFACS (facts) of implementation is our need to anticipate that fundamental power relationships, the functions of schooling, this whole element of authenticity, the content of instruction and outcomes, and the structure of engagement are all going to change. I talked before about the goals being known, the means being known and out front so that teachers can no longer spring tests on the students for the purpose of keeping them in line -- it isn't consistent with CBE principles. This would be antithetical to the kind of approach that I have been discussing, with teachers relying on their bureaucratic position in order to justify classroom activities. CBE demands authenticity rather than arbitrariness on the part of all actors in the school, and that is going to pose a very serious obstacle to successful practice. I have already talked about the need for both content and structural change, but I am suggesting here that there are at least three different domains or kinds of structures that relate directly to the kind of model that we would like to put in place with CBE (See Figure 8). The first structure is the certification structure:

- What is it that we are really going to be certifying; and
- What are the ground rules that we want to use in certification?

The first issue this structure raises is:

- To what extent are we going to be certifying competencies?
- To what extent are we going to be certifying capacities, or some combination of both?

The second issue involves:

- Whether all of these things are going to be required outcomes in order for students to graduate.
- Whether we are going to build in some kind of elective system that allows students to demonstrate five out of ten, or ten out of twenty of these areas, but not mandate down to the last degree what they have to do.

The third issue involves:

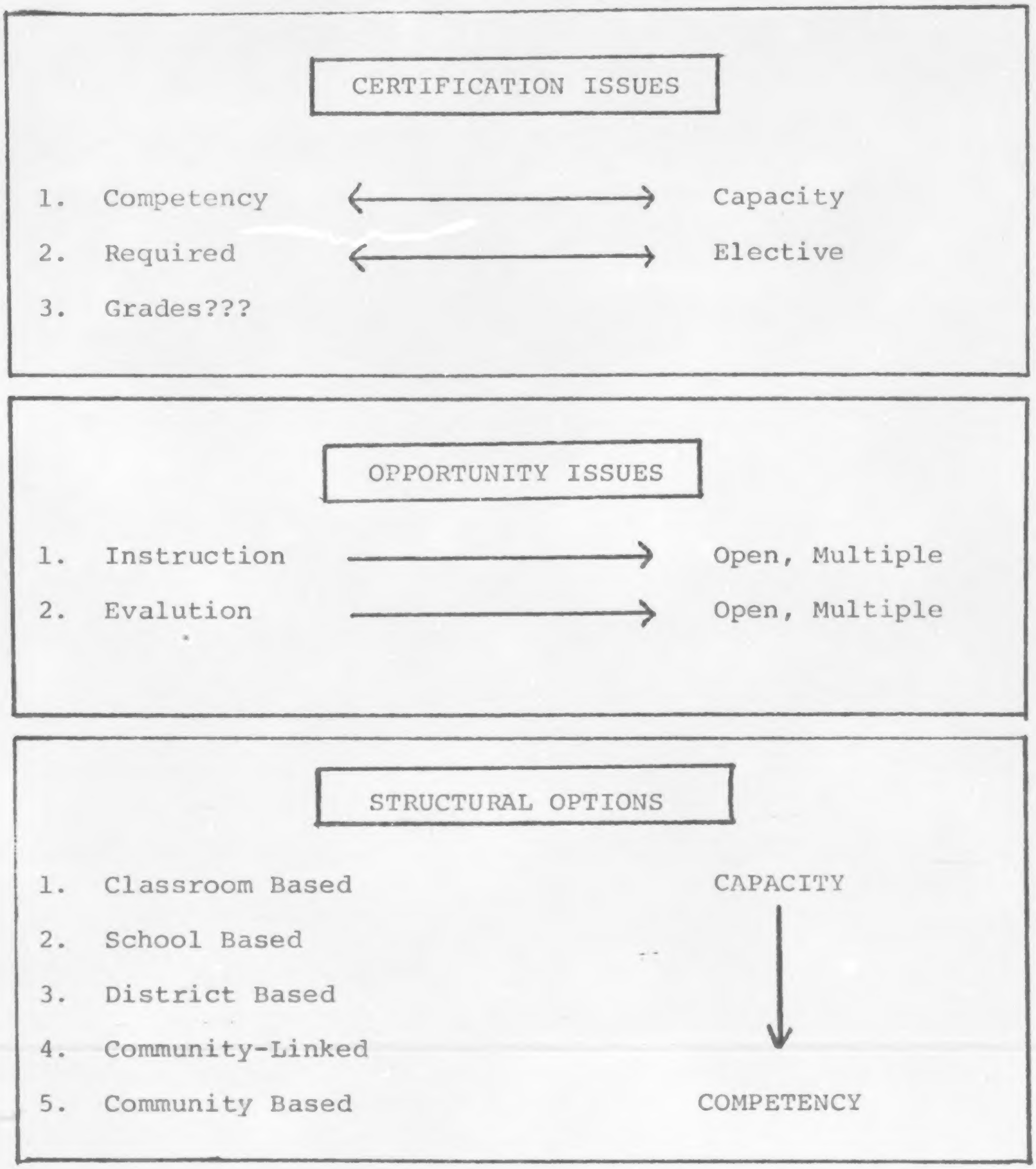
- Whether or not we are going to standardize all of our outcome measures.
- Whether, in fact, we are willing to individualize our outcome measures. It is the difference between standardized state tests, and giving students multiple ways of demonstrating a given competency.

The second major structure that we need to consider is the opportunity structure. Inherent in the concept of competency based education is the notion that both instruction and evaluation need to allow open time usage and multiple opportunities for students in terms of their being instructed in a given content area and evaluated in that area. So new kinds of mechanisms and structures involving increased opportunities for and linkages between instruction and evaluation need to be worked out.

The third major instructional area that is implied here, is what I call the engagement structure. Last spring, along with the Oregon CBE staff, I worked out five overly simplified engagement structure models that have to do with who is the instructor, who is the evaluator, where do the students meet the teachers, and what are the contextual boundaries of that interaction.

The Classroom Based Model centers on the individual classroom: one teacher to one group of students. All of the things that are supposed to happen will presumably happen in the context of that single classroom. What I mean by the School Based Model is that the walls of the individual classroom cease to be important structural boundaries and that the school building becomes the unit of operations and the basis for doing instructing and evaluating. There is much more teaming, collaboration, and mixing of students with different types of teachers possible in the School Based Model.

The District Based Model extends the critical frame of reference one more step and allows us to share all the district's resources and use the specialization and skills of staff wherever available. This model does not require that



CERTIFICATION ISSUES

1. Competency ↔ Capacity
2. Required ↔ Elective
3. Grades???

OPPORTUNITY ISSUES

1. Instruction → Open, Multiple
2. Evalution → Open, Multiple

STRUCTURAL OPTIONS

1. Classroom Based
2. School Based
3. District Based
4. Community-Linked
5. Community Based

CAPACITY ↓ COMPETENCY

FIGURE 8

we keep the kids in the same school building in order to pursue the instructional program. The Community Linked Model is one in which at least some aspects of the instructional program exists outside, and occur outside the formal school. This type of alternative becomes really critical as we begin to take the notion of life-role competencies more seriously, rather than the typical curricular focus on capacities. The Community Based Model operates on the same principle, allowing or requiring instruction and learning to take place out in the community separate from the formal school system. However, in Community Based Model (as distinct from the Community Linked Model) the power to evaluate student learning resides with the specialists in that community, rather than with the formal school staff. The Community Linked Model allows students to go out in the community and learn whatever is appropriate, but they return to the school in order to be evaluated by formal school staff. The Community Based Model, which is really the most radical model, is the one in which you give the power of evaluation of students' competence to the external specialists out there in the world working with the students and serving as instructors.

One last set of ideas pertaining to the reform definition of CBE that I have been using suggests that eight fundamental "realities" that guide the way we do education (See Figure 9) today are reduced to myths by CBE. First, I think it challenges fundamentally the isolated classroom and the single teacher. I don't know how we expect students to develop a range of life role competencies by sitting in individual classrooms with single teachers. I don't know how we can realistically expect any individual teacher, even superman or superwoman, to be able to pull that off. This broadened range of outcomes fundamentally challenges the credibility of the single isolated classroom as the vehicle through which this can be accomplished.

Second, I think that the principles of criterion-based performance used in competency based education fundamentally challenges the validity of existing grading systems and credit systems. I don't know what it means to get a B in competency X, Y, or Z. You either have the competency or you don't. If you have it "better" than someone else then, in fact, you have a different competency. This principle fundamentally challenges the bases of current grading and credit practices, and it is going to be murder trying to convince people wedded to the current mythologies of education otherwise. Since this is linked to the Carnegie Unit of credit, it too is fundamentally challenged. Third, the reform concept of CBE also challenges the whole notion of tracking: putting people into different kinds of slots and having them end up with different kinds of destinations. The open time frame and multiple opportunity frame implied in CBE suggests that we can get students where they need to go, given enough time and effort on the part of both students and staff. The presumed need for ability grouping or different types of curricula in the way they have been used up to now becomes unnecessary with CBE.

CBE CHALLENGES MAJOR MYTHS

1. Isolated Classroom
2. Grades - Credit System
3. Tracks
4. Semesters - Courses
5. Age - Graded Structure
6. Tests
7. Subject Matter Primacy
8. Experience

FIGURE 9

Fourth, and I think that this one is more of a problem than anything else, CBE challenges the whole semester structure of education. It fundamentally challenges the fixed time notions around in which we have built school years, semesters, and school classes. How we can develop the new models or organizing schooling that no longer rely on some kind of fixed time units, I don't know; but I think that these sacred, fixed-time conceptions are preventing a lot of educators from really taking a bigger view of what CBE might become. Given that the current definition of a course is anything that lasts a semester, I think that CBE fundamentally challenges our conception of what constitutes a course as well.

Fifth, I think CBE challenges the age-graded structure for students as well. I don't see the terms third grade, fourth grade, fifth grade, or ninth grade meaning much anymore in the context of a fully integrated "K-12" competency system such as Oregon has mandated. It is true that students may begin or conclude their fourth chronological year of being in school, but the notion of fourth grade and fourth grade curriculum will cease to mean much once a CBE program is implemented.

Sixth, I spoke earlier about CBE's challenge to pencil and paper tests; particularly when the notion of life role competency is taken seriously. I discussed this with Norvell Northcutt after his presentation Wednesday night, and he admitted that the one major arena they had on social interaction was something that they couldn't even put in the APL exam because they knew they couldn't get close to measuring it with pencil and paper methods. For example, if we take the range of acculturation outcomes seriously that I discussed earlier, we will have to come up with some ways of evaluating things that are very different from relying on paper and pencil tests.

Seventh, I think CBE challenges subject matter primacy in the sense that what CBE does not begin by assuming the existence of all the school subjects that we already have such as geography and U.S. history and then searching for a way to fit come kinds of competencies into them. If you fundamentally take the notion of life role seriously, then you start from there to build a curriculum -- not start with your current school curriculum and try to find places for life roles into it. It is the tail wagging the dog problem, and I think CBE challenges the primacy of existing subject matter as the way to go about stimulating and implementing the reform.

Eighth, I think CBE fundamentally challenges the notion of the value of experience among educational personnel. I say that because I think that the longer people have been in a system, the longer that they have practicing their craft in the context and framework of the previous seven things and the more difficult it is going to be for them to change their conceptions and skills to do the whole range of new technologies to play the new kinds of roles out differently in the context that CBE represents.

In closing, these are my unorthodox but well-considered perspectives on what a reform model of CBE is all about. Implementing it may not be feasible, but the research that we have to do on it involves all of these variables. Most critical, however, is research that begins with the myths themselves. Do the myths really need to be there, and what can we do to change people's consciousness about the myths that makes them willing to entertain at least another concept or another version of education that might be every bit as legitimate as the models we have now. I hope you will begin to stimulate this kind of inquiry in your respective states and join me and my colleagues in turning the CBE bandwagon up the high road of educational process.

DISCUSSION:

Edited Transcript

Comments by
Leon Lessinger, B. Frank Brown, and William Spady

(Issues raised by participants/audience are included in the compilation of issues that follows this section.)

Leon Lessinger

I think in deference to the wishes of the group, you want more questions and discussion. You've had enough thrown at you. As a dean, I would give you three credits, and I've actually had to work this thing out. That's one of our big problems in academic circles when we're forced to live with those myths that are realities. How do you confer academic credit on such a gathering? I've come up with a solution typical of me. (I'm inventive around myths.) It's what I call the one, one, one program which has now been adopted by NASE of AASA. (If you don't know what that is, that's okay. I don't know what it is either.) But one, one, one -- you get one credit for seat time. Two credits if you write a paper and do research. And you get a third credit if you actually apply what you intend in your paper. You have to set outcome things that are going to happen as outcomes; these have to be judged then by the professional association you belong to. It is interesting -- by now a couple of thousand people have done that. Most people sign up for two. They don't sign up for three. But it takes the heat off.

I thought our last speaker, Bill Spady, in a very real sense did the job that we thought we were facing now -- the summary of the issues. I think in a very real sense CBE as a reform strategy, as he indicated, really sets the issues for our third century in a very direct way. I would have put it in a little broader context, as a result-orientation.

I think it's more than a reform, its a transformation -- and I hope that's just not a play on words. When you shift from an input orientation, you really are being very radical. In the mathematical sense you go to the roots of the notion. And I think it's dawning on all of us, as we are more confused now than when we started, that we really have a tiger by the tail.

But that's long-range. Short-range we don't. It seems to me that there is nothing about CBE that forces us to take the radical solution. And knowing the little I do about the legislative process, I suspect, and I leave it to Frank to enlarge more on this, that we probably would be better off to take a short-range look at CBE, to rather narrowly define it, and perhaps leave for the notion of results-oriented education the larger view. You say, "That's just semantics." I suspect, as one who has lived in the political arena a little bit -- as a superintendent and then in a federal situation -- that the legislators will not allow us to have such an ambitious agenda, that it would, in fact, be perceived very much as a renaissance of the progressive movement.

I find it ironic for a person like me, so identified with the accountability movement, who has been perceived as the courier of the conservative ethic now ending up with an agenda that in turn is truly progressive and liberal.

But that's fine. These movements have a way of uniting and reshaping. I think it's fair to say that the transformation from input to output -- to use that terrible language --

represents the setting of a major set of issues for us in our third century. And I think Bill stated some elements I'd like to reemphasize. When you move toward output orientation, toward the definition of outcomes, you immediately build a bridge between us.

Let me give you an analogy that I hope will fix the point in your mind. When a university president says, as you advance in your cap and gown, "By the authority invested in me, I dub thee knight -- or Ph.D., or whatever" he is, or she is, a complete embodiment of the administrator. When you move to outcomes, you use different language and different tradition and the caps and gowns and all that ceremony (which I hope we don't lose incidentally) -- that becomes kind of shaky. We move into a different kind of thing, something we may not be ready for, psychologically, attitudinally, managerially or any other way. Still, there are pieces of it, already about, and so my first recommendation has to do with the notion of short range and long range. I suspect that we would be well advised in state departments to talk about short range notions that don't shut off the possibility for the longer range one.

A second idea that I want to share with you has to do with the continuation of our efforts here. I would hope, and I speak for Frank as we did talk about it last night, and Dave Gordon mentioned this also, that there be something come out of this and that maybe we ought to look at some issues that transcend CBE. CBE becomes a subset when we deal with the issue of productivity. If there are four horsemen of the Apocalypse one of them has the name productivity, or put very bluntly, we ain't gonna get no money, guys. We ain't. Republican or Democrat, the federal budget is awesome. Something like $700 billion ceiling -- there is no ceiling-- and there has to be a reckoning as to how much this society can afford. I know that some of my liberal friends will say that is spoken like a true fascist, maybe it can afford everything. Okay I will have to say that is a possibility. From my point of view, as I look at what is happening in the legislatures in our country, there is some kind of ceiling.

If education is going to come away fully funded from the appropriations table, it is gonna have to have some solid outcomes. We are not going to compete unless we are results-oriented. The issue of productivity is going to be joined or teachers will not get money even when they strike and even when they shut the schools down. That has already occurred. It is, therefore, in the self interest of us as a profession that we address the issue of productivity. That is a big issue because it can be defined very quickly. It means results for the same cost, the same results for less cost, or significantly better results for more cost. So again we are faced with the issues raised in this meeting. What do we mean by results? But productivity would be the theme that I would think would be a nice followup, because it would tie costs and benefits --which leads me to my next point about value added.

We haven't looked at the process, and you can't get away with that. That's not a criticism, that is just a fact. What we should have done was look at outcomes. So we talk about inputs and outputs that are called throughput. I hate that word. Let me more elegantly call it value added. What do we add between the in and the out? Let me just speak to that because I think it will put CBE in the broader context that I hope we do always put it in. I wouldn't want to see it become a narrow concept, even though in the short range perspective it may serve our top priorities to have it narrowly based -- for now.

There are really four or five kinds of values that we can add. The obvious one is cost. It costs something between the in and the out, and these costs will differentiate. It costs $2,000 in some places and $1,000 in other places to do the same thing. There is a variation in costs and it remains to be seen whether the $3,000 per child in District A in fact is better than the $1,000 in District C. Obviously, that is contingent upon these other values. We haven't talked much about use value, which is what CBE is all about. The definition of quality, incidentally, is use value: Fitness for use as judged by the user.

We also never did really answer, who is the user? California says the child. I am uneasy with that and I don't think the Californians are going to get by with it. If you want to read a good book, read John Hershey's Child Buyer. If the client is in fact the student, then the state may become the family and I for one am very uneasy about that. I want to know what my rights are. That kid is a part of me, and you aren't gonna treat him separate from me. Maybe you didn't intend that but that is an issue. Who is the user? It is clear that one of the users is the employer. We are pretty much convinced on that but a lot of other things are still kind of shaky.

We have left out a very important value. Esteem value. Everybody in this room knows that Harvard is better than... I better be careful. We act as though we do. It has more esteem. We all know that academic programs are better than vocational programs. Don't we? It is a status problem and as a matter of fact the clothing on the educational body is mostly esteem. If we do a really good job of CBE, if the guys like Brown and even Lessinger convince you to go CBE, we may very well expose the creature as having no clothes and lose our jobs. Because it may be that man really is a dancer and a lover and not a thinker. And I am persuaded that man really isn't and I am going to end with that.

B. Frank Brown

One thing that hasn't been discussed, and I think has to be discussed, is inservice for teachers. Bear in mind that in 1965 we had a shortage of 6,000 teachers. Last year, we had a surplus of 350,000 teachers who graduated in May and could not be employed in November and the bank of unemployed teachers is somewhere well over half a million. We don't need any more teachers, and the preservice training in the teacher ballgame is over. This means that the local school districts are going to have to take on the job of inservice training, especially as CBE programs are developed and the inservice need is great.

Roughly 15 to 20 states have legislation pending and most of that legislation seems to go like this: the first thing you do in CBE is to develop programs for the identification and correction of essential skills at the third, fifth, eighth, and eleventh grades. Now if we do become nongraded then we can talk about it at ages 8, 10, 14, and 16. I still think the concentration on the CBE movement has got to be on developing skills essential in the area of reading, computing, problem solving and citizenship at those levels, on measuring them, and on doing something when they don't have them. Don't move on anything until they do.

With reference to that citizenship, let me say this, citizenship is going to equal or surpass CBE as a reform in the next decade. Just to show you what is happening on a national basis, the Danforth and Kettering Foundation are just finishing a national study of citizenship education and reform to move it away from the not-well-thought-out add-on to social studies toward a total faculty commitment, threaded throughout the total program. The chief state school officers have adopted a position statement urging every state begin a massive effort to improve citizenship education.

Secretary Mathews called a group of us together in October to ask what HEW could do, and out of this the US Office of Education has funded a national conference on citizenship education which will be held in Kansas City in September, and from that all the regional conferences of the US Office of Education are supposed to then hold conferences on citizenship education and from there it moves to the state level. So you are going to be involved whether you like it or not. It is a movement whose time has come, so I make my plea that we just go ahead and consider that fourth R -- responsibility.

I would like also to say something about custody, which Bill brought up. The schools cannot continue to be custodial institutions and at the same time excel in teaching. Bear in mind that the Supreme Court has ruled that the Amish children do not have to attend above the eighth grade. In a democracy, if the Amish children don't have to attend school above the eighth grade, I don't think the Catholics and Protestants, and Jews do either and I believe we are just waiting for a case to take care of that.

We used to think that children didn't have any constitutional rights and we could mostly handle them in as authoritative a manner as we so chose. But now that they have constitutional rights, this changes the whole complexity of the schools and discipline. I think that within a very short time you are going to see some searches for new institutions to take care of some of the problems of the youth and take this problem off the schools and get the schools our of this awful business of discipline. Schools should have the opportunity to excel at what they do best: Teaching and Learning.

Lastly let me say again that I still think we should stay with CBE on a very narrow base. Let me urge that this be a largely state department function and that we not rely on thousands and thousands of school districts to all start developing objectives and measurement techniques. I think that the state departments need to rely to a large extent on the data bank items which have already been developed by Educational Testing Service, Westinghouse, Learning Center and other groups who are very rapidly developing the items that we need to measure and that we need to test for. It is my plea that the state departments of education maintain a leadership role with a supporting role for the school districts, but for goodness sakes let's keep the school districts from all trying to do the same thing so we can come into this with a first class program. Let the schools figure out through inservice training how to do ther remedial part to bring a youngster up when he doesn't make it and make it a joint partnership with the schools, but you be the big support movement, identifying the critical areas.

Leon Lessinger

There are two other points that I want to add, and Frank set the stage for them. One is the questions of standards, we haven't really addressed it in this conference. Everybody wants to skirt it. When I was fooling around with accountability, I carefully avoided it by saying that you would be accountable for what you proposed. That is fine up to a point. It's not fine now. I have some prepared remarks of one page that I am going to comment on that I left off my first effort here. It seems to me that we have moved beyond accountability as an abstraction to a concern for the consumers of education. But, we have not yet defined user, consumer, or client, and we need to.

We also have now moved beyond accountability to a concern about how to increase the responses of the system. That has come out in many of the statements. If I were to do a paper on accountability now (in the eighteenth revision), I would use the metaphor that productivity is the face and control is the heart of the quality control effort. I refer to the managerial engineering notion of feedback in redesign or formative evaluation. We didn't talk about quality assurance which is quite different than quality control. It is the part that sticks in our craw and the part that I want to introduce now. It seems to me that in a highly mobile society such as ours we cannot rely on local standards; we are one nation. The dilemma is, however, that we don't want federal control for the good reasons that we have learned in the last 10, 12, or 20 years. The founding fathers were brilliant in setting up these checks and balances and in reserving to the states the educational effort. Therefore, it seems to me that the states, for survival in terms of our traditions, have got to find cooperative ways to define mutually acceptable standards. This has been done in private enterprise; where it hasn't been done, we have chaos. If you want to have some fun, go to the places like a machineries handbook. Behind every one of your appliances is a set of agreements that is enormous. The thread size, the curves, everything is agreed upon. Voluntarily they have reached agreement, say on SAE 30 oil, of the voluntary aspect. It is the Society of Automotive Engineers who have agreed what 30 means, whether it is in Maine, or California, or whatever. SAE 30 is SAE 30 and the government doesn't have to jam it down your throat. Where is it going to come from? Where is our SAE 30? We don't have it now. A youngster comes from New York City to Los Angeles and you don't know what the heck he has had. You look at his transcripts and they signify nothing. That won't wash. It can't in a society like ours, any more than it could in your car. If SAE 30 in Maine meant something else than it did in California and you put it in your car it won't run. There is a tradition of voluntary standards. There is a rich tradition. If there are 50 state standards, there will be a national one. The time is probably five years from now or less because our economic engine will not run without some agreements on what an educated person minimally needs to run this awesome economic machine if we are going to eat, compete with the Japanese and the others who are themselves trying to survive in a very direct sense.

Last, but not least, I would feel ill at ease because there is a pseudo scientism about CBE, about accountability, about productivity. I once wrote a chapter called educational engineering. It sounds elegant. It has a pseudo sophistication. The fact is and it is important as we deal with CBE, that "we don't know nothing." The more we know, the less we know about expectations and results and feedback systems, all of which are powerful. I have a ninth principle that I want to leave you with as kind of a summary of CBE. It reads that where there is knowledge there is mystery, complexity, paradox, charm and pathos in the human condition -- including the condition of reformers, and state department people, and even consultants. I call this the law of the inevitable snafu. It means situation normal all fouled up. Some of you may have another interpretation, but you are wrong. I would remind you that there are several classic laws to be remembered in all efforts at reform. Two of them Murphy has described and you know them. You know all that can go wrong will go wrong, all that can't go wrong will go wrong. Remember that O'Toole said upon reading Murphy, Murphy was an optimist. I want to give you Frank Brown's law. Frank discovered that when you plant grass seed, and you carefully water it, use fertilizer and do everything right, it won't grow. But the few seeds blown onto your driveway by the wind will flourish magnificently.

William Spady

I see four or five different kinds of reward areas as being impinged upon severely by the CBE type system. I think there is a set of rewards that has to do with finances, etc. They are the kinds of things that teachers are demanding like salaries, working conditions, length of year, and how many hours they have to stay at school, etc. There are interpersonal kinds of relationships rewards. There are security rewards. I think that at least intially CBE fundamentally threatens a great many of those securities and I think my eight myths started with some of the symbols of security and pertinence about one's role, etc. Without going into the whole array of things that I have worked with, there is a major area of rewards that has to do with the degree of control over the nature of work. Part of the aspects of that degree of control has been the teacher's fundamental role as evaluator. The teacher has always been able to define unilaterally that role -- basically do it the way he or she wants to do it, using personal criteria, tests, or whatever in evaluating students. I think competency based education, in its press for openness, explicitness, etc. takes away the enormous amount of the arbitrary tha could be associated with the kind of role. That means there is a major infringement, at least to begin with, I think, on the degree of the lateral control which the classroom teacher has over some critical aspects of the work. The fundamental reward may come from greater productivity with the students. The most important kinds of rewards that come to teachers come from knowing that they have really reached students and are really having success with students and get responsiveness back from students. If that is true (and I don't know whether it is or not) then the whole approach to instruction in CBE or mastery learning or whatever provides to the teachers in terms of new kinds of tools, more effectiveness to be productive, that may be the thing that turns it around. That may be the one reward that overbalances some of the losses that may come in some of these other reward areas. That is an area that I am going to be spending more and more time with. I would appreciate getting some perspectives and ideas from you people about that domain. I think it is really critical.

Let me speak also to the relationship between the state on the one hand at least assuming responsibility for this kind of effort, and the role of individual districts which are just as critical. What I tried to point out in remarks where I had certification and evaluation in the word no, and then included instruction and acculturation in the word yes, is that you really have two different kinds of phenoma. It seems to me that only states can do something about it. It is at the state level that the fundamental super structure of certification exists i.e., this thing called credit. It is at the state level where the graduation requirements are largely determined. So states can have an awful lot to do with certification structure around which CBE gets built.

And if this doesn't happen at the state level, I am not sure if anything else could happen. There really has to be coordinated partnership between those two levels in developing policy direction; I think there has often been a tension rather than the kind of collaboration that is necessary.

III. ISSUES

(Compiled from notes and from materials generated by participants in workshop sessions.)

APPENDIX

CBE issues identified by the participants in the conference "Educational Reform: The Role of Competency Based Education." Sponsored by the Study Commission of the Council of Chief State School Officers.
Denver, July 1976

Program Initiation and Definition	Program Planning and Locus of Control	Program Implementation	Assessment and Evaluation
As a reform measure How does CBE relate to the growing call for reform of secondary education? Definition Is it possible or desirable to strive for national consensus on the meaning of CBE? What is the difference between competency and proficiency ? Does CBE move us too far in the direction of career orientation? How can public/professional interest and support be generated? How can CBE build in flexibility for future needs/competencies? How can promising practices in specifying objectives, testing, media, etc. be shared and adapted among states?	Should minimum competencies be determined at state or local level? If at state, how will we assure individualizing; if at local how will we assure equal opportunity education? What is the function of state legislation in mandating, funding, defining, etc. Is it really necessary at all? Are "minimum" competencies essential ones? Should we reserve the term minimum to number rather than nature of competencies? What do we really know about effective strategies for community involvement in educational decision-making, and how can we apply that knowledge in developing CBE programs?	Roles In a CBE Program -- What are the roles (and how do they relate) of: school boards, the community, local and state agencies, federal agencies, and the user/client/student? Particularly, how are they involved in determining and certifying competencies? What are the essential services an SEA staff must be able to provide to an LEA initiating CBE? How can teacher certification & accreditation accommodate the need for human resources from the broader community, e.g., an industry person in a "teacher of record" role? What are optimum timelines and stagger patterns for LEA initiation and program implementation? What new or special competencies for instructional, administrative, and related personnel are essential to support a CBE program?	Should competencies (or proficiencies) be assess at exit level? in every grade? at traditional pl teau? Is there a sequence? What kinds of timelines are reasonable for implementation? How coul they be staggered? What will district accountability really mean? How will CBE change the role of a state assessment program? How can we keep our efforts at specifying measurable outcomes fro causing us to eliminate highly desirable ones that are difficult to measure?

APPENDIX
(continued)

CBE issues identified by the participants in the conference "Educational Reform: The Role of Competency Based Education. Sponsored by the Study Commission of the Council of Chief State School Officers.
Denver, July 1976

ogram Initiation and Definition	Program Planning and Locus of Control	Program Implementation	Assessment and Evaluation
		What are the implications of CBE for (a) teacher preservice, (b) teacher inservice? What are the implications for elementary education? For the articulation of elementary and secondary programs? How will CBE be linked to high school graduation requirements? Must it be? How can viable options in time/space/experience be available to students at a cost we can possible pay? What happens to educational programs that do not link neatly to specified outcomes? How does CBE affect the nature of and need for classroom diagnosis of learning?	How capable are we, at this time, of performance testing, and how can states and districts quickly learn new, necessary strategies for evaluation appropriate for CBE? What is an appropriate balance of performance testing, standardized (written) tests, etc.? How will program evaluation link to remediation of design and/or implementation strategies?

IV. CBE IN THE STATES

A Summary of Nationwide Trends

CBE IN THE STATES

A number of states or local districts within states have taken steps towards the establishment of programs identified as competency based. The following list, which is not comprehensive, briefly describes some of the current programs for CBE implementation (Clark and Thompson, 1976). See Appendix D for the results of a recent and thorough survey of state developments in CBE.

Alaska

The Anchorage Borough School District adopted competency based graduation requirements in basic English and math skills in August 1975. Students are first evaluated during the third quarter of the tenth grade for their ability to meet the proficiency; those in need of further instruction are then enrolled in special remedial classes to help them meet these requirements of graduation.

The Craig City School District in Alaska has adopted a competency based approach to earning credit towards graduation. Student mastery of specific instructional objectives is determined by performance tests; passing the test earns the student the appropriate credit.

California

The Los Angeles Board of Education passed a graduation requirement for reading competency in January 1976. All candidates for high school graduation must demonstrate reading skills at a proficiency level that will be adequate to meet their survival needs in contemporary society.

Colorado

For fifteen years, the Denver School District has required their high school graduates to demonstrate proficiency in language, reading, spelling and arithmetic.

Florida

Because the State Commissioner of Education felt that a current Florida high school diploma contained no information that would indicate whether or not the student could read, he initiated a second "special" diploma that would indicate competency in basic skills. While students may earn a regular diploma without passing a competency test, they receive special recognition if they pass it.

Duval County has developed a new Functional Literacy Test (including computation) for use as a graduation requirement.

Indiana

In September 1974, the Gary Board of Education adopted a resolution to develop criterion-referenced tests to assess student competencies in reading, writing, spelling and mathematics. The first reading test, given to eleventh grade students in January 1976, will become a graduation requirement for the class of 1977. Tests in three other areas are currently being developed.

Louisiana

The State School Board of Education is currently considering the adoption of statewide competency requirements in reading and math, to be determined at the tenth grade level in anticipation of high school graduation. The State Department of Education will study the proposal and make recommendations to the Board.

Maryland

The Maryland State Board of Education expects to reach a decision this year on the implementation of competency based education.

Massachusetts

Phillips Academy in Andover requires graduating seniors to demonstrate competencies in reading and writing.

Minnesota

The St. Paul Open Schools have ceased to base their course credits on Carnegie units, substituting verification of competencies and experiences as graduation requirements. Students must demonstrate their abilities in six general areas to receive diplomas.

Nebraska

The Board of Westside Community Schools in Omaha adopted competency based graduation requirements in 1974. Students must meet certain requirements for course credit, but they must also demonstrate competency in the following seven areas: reading, writing, oral communication, mathematics, consumerism, the democratic process, and problem solving.

New York

The New York State Basic Competency Tests measure the minimum student mastery of basic competencies likely to be required in the adult world. The tests are recommended for the ninth grade level and measure skills in reading, mathematics, civics and citizenship, practical science and health, and writing. In 1979, reading and math tests will be required for a high school diploma.

Other tests will be administered on an experimental basis beginning this year, with provisions for biannual test revisions.

The State of New York has also adopted the External High School Diploma Program, allowing adults to qualify for their high school diploma through a series of competency based assessments that measure such items as purchasing skills, occupational awareness, monetary awareness, and family medical awareness.

Oregon

The Oregon State Board of Education began the process of implementing competency based education in 1972 with the adoption of the first of two statewide policies that would require a systematic, competency based response from local school districts. The new Oregon Minimum Requirements for High School Graduation amplified the standard course and attendance requirements expected of graduating seniors to include competency criteria as well (i.e., students must demonstrate their ability to perform in certain identified areas).

A second policy, the Oregon Minimum Standards for Elementary and Secondary Education, was adopted in 1974 and included standards for school certification that would require the development of competency based education programs in elementary and secondary schools throughout the state.

- Successful demonstration by students of district determined competencies
- Identification of performance indicators acceptable to the district as evidence that individual students have attained the specific minimum competencies

- Development of mechanisms to assure careful monitoring of student progress in attaining competencies and provisions for appropriate instructional help.

- Development of recordkeeping systems to ensure that student achievement of competencies is documented and transferred to student transcripts

- Development of "course statements" relating to the graduation requirements for all secondary-level courses (e.g., statements of goals, minimum competencies to be taught in courses, instructional options, and evaluation methods)

Competency based features of the new minimum standards for Oregon school accreditation are listed below:

- Provision to elementary students of opportunities to acquire knowledge and skills applicable to the minimum competencies required for graduation as adopted by the receiving high school

- Adoption of a system of instructional planning which will: provide for establishing goals (K-12); allow for community participation in selecting instructional outcomes; include assessment of student performance; and apply this data to decisions on instructional priorities and program changes

- Initiation of a classroom system of diagnosis and prescription to assure that each child acquires basic communication and mathematics skills and also acquires a basis for achieving competencies

- Adoption of policies and programs which assure that services such as transportation, building construction, and media centers effectively support the operation of the competency based instructional program

Texas

The Texas Adult Performance Level Program provides adults with the opportunity of gaining a high school diploma by demonstrating their mastery of selected competencies. Take-home tests and trained interviewers assess adult skills related to consumer awareness, societal awareness and functional literacy.

Utah

The Salt Lake City School Board of Education has mandated as a goal for this year the establishment of competency based instruction. The Board has also adopted the program to verify competency achievement prior to graduation.

In Spanish Fork, Utah, the Nebco School District has instruments for the verification of competency attainment in career education, music, typing, physical science, geography, mathematics, home economics, and art.

Virginia

The Virginia Standards of Quality Act, effective in July 1976, required the development of minimum educational objectives and a uniform testing program in basic skills for statewide administration within the next two years. The skills identified for the competency based program include: functional literacy, computation skills, U.S. history and culture, and the ability to advance in schooling or obtain employment.

Greensville County in Virginia has adopted competency based minimum standards that apply to students from elementary through high school.

A Summary of Nationwide Trends in CBE Programs

Some nationwide trends are beginning to emerge in the development of elementary and secondary competency based education. The following nine non-independent program types can be identified; they vary both in the nature of the competencies involved and in scope and methods:

1. Comprehensive K-12 Competency Based Education

   These programs apply the performance based education paradigm to the entire K-12 curriculum. They often identify the competencies to be achieved by the end of each unit of instruction and allow time and instructional setting to vary based upon individual students' needs, abilities and demonstrated performance. They may or may not be focused upon a set of terminal graduation competencies, possibly identified as necessary to function in life roles.

2. K-12 Competency Based Basic Education

   These programs also apply to the performance based education paradigm but only to the basic skill areas of the curriculum. They are often an early stage toward the evolution of comprehensive K-12 competency programs.

3. Competency Based Graduation Requirements

   Such programs focus upon a set of minimum competencies which all students must attain in order to receive a high school diploma. Such sets of minimum competencies are often limited to basic skill areas, but sometimes they include a wider range of life role relevant skills. Such requirements may complement or supplement traditional attendance and credit requirements. Since such requirements are often imposed by state legislatures or other higher level governing bodies it is often left to the local systems to determine the instructional, assessment and management accommodations which need to be made in order to help students attain the competencies.

4. Adult Competency Based High School Certification

   These programs provide competency based assessment to determine the possession by adults of minimum skills required to meet equivalency standards for adult high school diplomas. They may or may not provide formal instructional assistance to those not able to demonstrate competence.

5. Competency Based Course Credit

   These programs are sponsored by schools which no longer use Carnegie units (course hours) as a basis for granting course credit. Instead, these schools are developing assessment tools to measure competencies and are also often using verification of experience as the basis for granting course credit. Schools may be minimally involved, offering only one CBE course, and others may have implemented an entire spectrum of courses that are organized according to CBE principles, thus approaching comprehensive K-12 competency programs.

6. Competency Based Basic Skills Diagnosis and Remediation

   Some high schools administer a battery of competency based proficiency tests in selected basic skills early in their program. Generally, the purpose of these tests is to identify students who need special instruction in basic skills before they reach their final year of schooling.

7. Competency Based Assessment

This type of program adopts only the measurement aspect of the competency based approach, applying performance based (criterion-referenced) tests to determine student mastery of their regular educational programs.

8. Competency Based Instruction

Some programs are primarily concerned with the exploration of CBE teaching techniques in the classroom, and are not using an entire CBE planning process. These teaching techniques may be derived from teaching/learning models, workshops, other CBE programs, texts, or audio visual materials.

9. Fostering of Generic Competencies

This approach assumes that fundamental cognitive skills underlie educational performance. The following five cognitive skills have been identified as possible generic competencies:

- ability to review and discriminate among stimuli
- ability to sustain attention to selected stimuli
- ability to analytically order stimuli according to the problem at hand
- ability to reorganize relevant stimuli and apply them to the problem at hand
- ability to continually censor proposed ordering of stimuli in light of new information

V. THE STATUS OF CBE POLICIES AND PROGRAMS:

An Informal Directory Compiled
From Information shared at the Conference

THE STATUS OF CBE POLICIES AND PROGRAMS

STATE AND CONTACT PERSONS	BRIEF DESCRIPTION OF CURRENT CBE POLICIES/PROGRAMS
National Institute of Education:	
Michael Cohen Grady McGonagiel William Spady	Developing conceptual work on organizational aspects of competency based education.
Productivity Division National Institute of Education 1200 19th Street, N.W. Washington, D.C. 20208 (202) 254-5530	Stimulating, designing, and conducting research studies on the implementation and effectiveness of CBE. Compiling information on state CBE initiatives from a national perspective.
Alabama	
Richard Causey Asst. Director of Instruction State Department of Education 607 State Office Bldg. Montgomery, Alabama	A task force committee has been formed to plan strategies for implementing guidelines for local school districts.
Alaska	
Ms. Marilou Madden Director, Educational Program Support Division State Department of Education Pouch F Juneau, Alaska 99811	Graduation requirements are being revised with the monitoring interest of the State Board of Education. Clearly, competency based education will be an option to the districts. Districts will be encouraged to adopt CBE as soon as they develop criteria. Until that time "standard credits" will be used. It is expected that districts will develop the CBE one area at a time e.g., Language Arts would develop and substitute CBE for credit count in that area. As other areas develop

The Status of CBE Policies and Programs
(Cont.)

State and Contact Persons	Brief Description of Current CBE Policies/Programs
	their CBE criteria they will substitute them for the credit count requirement.
Colorado Jim Hennes Eugene Howard John Brennan Colorado Department of Education State Office Bldg. Denver, Colorado 80203	Colorado requires an accountability process (since 1971) meaning: each district has a committee of citizens, educators and students; goals and objectives are set; programs and designed to meet priorities, evaluations are made and results reported to the public. Accreditation by contract, at the option of the district. Helps meet the accountability requirements and develops a written school plan. No minimum standards or competencies are set by state or required by districts. Some districts are moving toward CBE on their own.
Delaware Donald Wachter State Director of Instruction Dr. Chester Freed State Supervisor of Evaluation both at: Delaware Department of Public Instruction John G. Townsend Bldg. Dover, Delaware 19901	The Instructional Services Branch of the Department has begun the development of professional recommendations regarding competency-based graduation requirements for consideration by the State Board of Education by July 1977. Several tasks are included: 1. Review of research and studies of learner competencies. 2. Identification of learner objectives which are essential to the attainment of those learner competencies. 3. Development of a plan for implementation concurrent with steps one and two, and taking all three to the field for review.

The Status of CBE Policies and Programs (Cont.)

State and Contact Persons	Brief Description of Current CBE Policies/Programs
Delaware (Cont.)	The Research and Evaluation Division has piloted the ACT developed copy of the APL Test in seven high schools. o Data will be provided to the Instructional Services Branch for consideration in planning graduation requirements, learner objectives and learner competencies. o Data will be considered by a state level task force re: possible continuation as a survey instrument following graduation requirement adoption or for possible inclusion in the Delaware Education Accountability Program (DEAP).
Hawaii Mildred Shimizer Sciences and Humanities Office of Instructional Services Hawaii Department of Education 1270 Queen Emma Street Honolulu, Hawaii 96813	CBE Programs are under consideration for the basic skills of reading and computing. Graduation requirements are being proposed reflecting increase in credit requirements and/or required credits.
Idaho Roy Truby State Superintendent Idaho State Department of Education Boise, Idaho 83720	Idaho is considering forming policy at the State Board of Education level which would provide for: High school students to demonstrate competency by passing some type of examination in the areas of: reading, writing, spelling, and mathematics.

State and Contact Persons	Brief Description of Current CBE Policies/Programs
Illinois	
Thomas A. Springer, Director Assessment and Evaluation Planning Section 100 1st Street Illinois Office of Education Springfield, Illinois 62777	At the present time, Illinois has not adopted a CBE program; however, the Illinois Inventory of Educational Programs has developed objectives for reading, mathematics, science, writing, social studies and the affective domain. Exercises, referenced to the objectives, have been developed for reading, mathematics and science. Achievement data has been collected from a sample of 4th, 8th, and 11th grade students in the areas of reading, mathematics and selected components of the affective domain. Many local districts in the state are developing minimal level measurements by adapting the state assessment materials and supplementing them with materials appropriate for the local districts.
Indiana	
Dr. Dewey Wahl (Long Range Planning) 229 State House Indianapolis, Indiana 46204 (317) 633-5754	In process of review. A projected 1977 handbook will propose some competency education focus.
Maryland	
T.K. Mullen Assist. State Superintendent Maryland State Department of Education Box 8717 BWI Airport Baltimore, Maryland	Graduation Requirements which includes "marked deficiency" identification and remediation. Proficiency test by law to be established by State Board. By July State Board meeting, a basic paper will be presented as basis for a law which will have the following elements: o early identification o minimum levels in reading, grades 2-7 o proficiency tests grades 8-12 o remediation and program direction

The Status of CBE Policies and Programs
(Cont.)

State and Contact Persons	Brief Description of Current CBE Policies/Programs
Maryland (Cont.)	Establish 10 management teams to provide technical assistance.
Michigan	
Dr. Judy Baver, Program Supervisor Dr. Addison Hobbs, Director Vocational and Technical Education Dr. Ed. PFAU, Director Teaching Education and Professional Development Dr. Eugene Paslov, Director Compensating Education Dr. Wm. Weisgerber, Director Career Education Dr. David Donovan, Director Research Assessment and Evaluation	Life-Role Competency Program Accountability at School Building level. Vocational Technical Education-all student programs and teacher-educational programs competency based. Teacher-Education CBE Project. Compensatory Education: Districts funded on competency basis. Cost/effectiveness study completed. Career Education. Long range assessment program.
Missouri	
Charles G. Foster Chairman of Committee P.O. Box 480 Jefferson City, Missouri 65101	The State Board has established basic skills as a top priority. A committee of seven members of the Department of Elementary and Secondary Education is planning for testing in the basic skills. Recommendations will be made to the State Board in September 1976.
Montana	
Al Wight Director, Finance, Planning and Evaluation Office of Superintendent of Public Instruction Capitol Station Helena, Montana 59601	Our statewide assessment against our 15 state goals leans in this direction, in that we would prefer that schools use a criterion or objectives-referenced rather than a norm-referenced interpretation of the assessment data. We are considering moving in this direction in our support of schools. A number have indicated an interest.

State and Contact Persons	Brief Description of Current CBE Policies/Programs
Nevada	
Herb Steffons Jim Kiley Nevada Department of Education Capital Complex Carson City, Nevada 89710 (702) 855-5700	State Department staff has just completed a study of the feasibility of "establishing policies and regulations for the issuance of the high school diploma based upon competency measures, in terms of legal, political, developmental, and implementation feasibility." A brief report of the findings and the conclusions are available. Further ODE involvement is dependent upon the Board Action.
New Jersey	
Joseph L. Picogna State Director ESEA Title IV New Jersey Department of Education 225 West State Street Trenton, New Jersey 08625	Demonstration project funded with state monies initially to examine "State-of-the-art" and then, to coordinate work of numerous task forces changed with the identification of teacher competencies; third phase continues as a clearinghouse operation through SEA intermediate units to provide LEA's with programmatic information. A fourth phase has just begun, involving the establishment of a SEA Study group for inservice education, studying the role of CBE for inservice program.
North Dakota	
Dr. Ronald Torgerson Planning and Evaluation Department of Public Instruction Bismarck, North Dakota 58505	School District development and adoption of goals and objectives. State assessment of fifth grade mathematics. Implementation of Right to Read with a statewide reading assessment projected during 1976-77. No CBE implementation plans projected for 1976-77.

The Status of CBE Policies and Programs
(Cont.)

State and Contact Persons	Brief Description of Current CBE Policies/Programs
New Mexico	
Alan Morgan, Director of Evaluation Robert R. Esparga, Deputy Superintendent Ted Sanders, Assistant Superintendent for Administrative Services at: New Mexico Department of Education Santa Fe, New Mexico 87503	New Mexico currently has no CBE effort per se. New Mexico does have, however: 1. a needs assessment requirement and a state mandated testing program. 2. "back to basics" effort being initiated. 3. minimum education standards which impinge on CBE concepts.
Pennsylvania	
Richard Deasy, Special Assistant to the Secretary Tranic Manchester, Commissioner of Basic Education Director, Project 81 at: Pennsylvania Department of Education Box 911 Harrisburg, Pennsylvania 17070	State Board Policy statement of January 1976 directing the state agency to develop a master plan for: 1. shifting state curriculum requirements onto a competency base. 2. coordinating the requirements to state aided initiatives in developing community based learning experiences. 3. building continuing coordination among all constituencies to shape 1 and 2 (document attached). Proposed requirements in a revision of school statutes now in the legislature: a. requiring each district to test and certify student minimum competencies in mandated school program areas and certain life role competencies. b. requiring the state agency to gather the data developed by and present to the general assembly. c. requiring the state agency to continue its statewide assessment program. This assessment (EQA) has been mandatory by regulation of the State Board.

The Status of CBE Policies and Programs
(Cont.)

State and Contact Persons	Brief Description of Current CBE Policies/Programs
Pennsylvania (cont.)	Revision of the instruments has been made voluntary for the next three years. State agency has built a staff and developed a management plan for implementing the state board mandate and making the master plan operational by 1981. The project is titled Project 81.
Rhode Island	
R. S. Daniels Rhode Island Dept. of Ed. at: 199 Promenade St. Providence, RI 02908	Statewide Educational Objectives and Performance Indicators setting existing level expectations (not requirements) in three life skill areas: comprehension, analysis and evaluation.(Wide public reaction is being solicited.)
Charles Modkowski Rhode Island Dept. of Ed. at: Hares Street Providence, RI 02908	Local Planning and Assessment Program, including establishment of statewide banks of objectives and related test items (now being piloted in three LEA's).
South Dakota	
Jack Pier, Certification Division of Elementary/ Secondary Education Kniep Office Building Pierre, SD 57501	At this point, there is no formal CBE thrust ongoing with LEA's. Source work has been done with Institutions of Higher Education to move teacher education toward CBE.
Edwin Obenauer, Accreditation Division of Elementary/ Secondary Education Kniep Office Building Pierre, SD 57501	LEA's in South Dakota are required to offer a minimum number of opportunities for students, but there are no state graduation requirements. LEA's make that determination.
Vermont	
Karleen Russell Vt. Dept. of Education Leon H. Brund Vt. Dept. of Education	Public Schools Approval Process defines basic competencies for graduation.

The Status of CBE Policies and Programs (Cont.)

State and Contact Persons	Brief Description of Current CBE Policies/Programs
Vermont (cont.)	
at: State Office Building Montpelier, VT 05602	Flexible high school graduation requirements, specifying alternatives to present Carnegie Unit approach.
Wisconsin	
Robert C. VanRiealte Assistant Superintendent 126 Laugdew Madison, WI 53702	Wisconsin has much interest at local district level on CB graduation requirements. A few districts are experimenting. Legislative mandate for SEA conducted assessment. SEA has statement of goals. CCSO has identified "Back to Basics" as a priority.

VI. Some Useful Resources for Those Interested In Pursuing the Topic of Competency Based Education

Title: Competency Based Education Sourcebook

Descriptor: The CBE Sourcebook is an inventory of 214 potentially useful CBE-related resources currently available to educational practitioners. The CBE Sourcebook provides information on products, materials and references in four categories: outcomes, measures, instruction, and instructional management (including recordkeeping).

Publication Date(s): Not published, limited prepublication printing for continued user based revision, 482 pp., 1976.

Originator: Oregon Competency Based Education Program, Northwest Regional Educational Laboratory.

Intended Users: Teachers, administrators, curriculum specialists, school board members, community representatives, and others involved in the process of CBE program planning, implementation and operation.

Purpose/ Content: The developers describe the Sourcebook as a resource inventory designed to enhance CBE implementation at all levels. It was developed as a result of needs stated by educators across the State of Oregon. The resources are described with sufficient information to allow users to compare between and among competing products to select the product(s) which best meets their needs.

The resources described in the Sourcebook contain the following information:

- Title
- Descriptor
- Publication Information
- Originator
- Intended Users
- Purpose
- Content
- Usefulness Related to CBE
- History of Development
- Main Activities
- Provisions for Use
- Conditions of Use
- Related Materials
- Ordering Information

Purpose/ Content: (continued)

Each section of outcomes, measures, instruction, and instructional management includes an inclusive introduction for that particular aspect of CBE and presents the resources in one of four subcategories.

1. Available materials from which selections may be made;
2. Products that provide guidelines for selecting from available materials;
3. Products that provide guidelines for designing materials;
4. References on the process, problems and potential of CBE.

Usefulness Related to CBE:

The Sourcebook provides useful descriptions of CBE-related educational resources. The user will be able to make informed discriminations between and among available products, materials, and references.

History of Development:

The need for a comprehensive inventory of CBE related resources was determined through Oregon Competency Based Education Program needs assessment activities.

1. The Sourcebook was developed to promote the following user outcome:

   Given a pre-stated CBE-related need, the user will employ the Sourcebook to identify products or procedures that effectively serve that need.

2. The effectiveness and usefulness of the Sourcebook was tested in prototype and product field tryouts. Revisions and refinements were made in the Sourcebook.
3. User data will continue to be collected during prepublication tryouts.

Ordering Information:	A limited number of prepublication copies are available for dissemination for the expressed purpose of gathering user data to further refine the CBE Sourcebook before publication.

Copies of the CBE Sourcebook are available from:

Oregon Competency Based Education Program
Northwest Regional Educational Laboratory
3000 Market St. NE, Suite #323
Salem, Oregon 97301

Title: Competency Tests and Graduation Requirements

Descriptor: A monograph for administrators describing background information and the current movement toward competency tests as graduation requirements.

Publication Date(s): 1976, 69 pp. + appen.

Originator: James P. Clark, Research Associate, and Scott D. Thompson, Associate Secretary for Research, National Association of Secondary School Principals (NASSP)

Intended Users: School and district administrators.

Purpose: The authors state that the purpose of this monograph "is to explore the use of a variety of specific competency tests that measure skill achievement required for high school graduation." This has become a growing concern as more high school graduates are found to be deficient in basic skills.
Goals: Not specifically stated in this monograph.
Objectives: Not specifically stated in this monograph.

Content: A brief discussion is given to defining competency tests and their relative position at the state and district levels. Samples of competency tests in current use are presented in the areas of mathematics, reading, writing, democratic process, art, music, and money management.

There are two appendices: one lists, by state, the schools using competency tests; the other, legislative and state board rulings concerning competency tests.

Usefulness Related to CBE: Anyone interested in current, specific information regarding the role of competency testing for graduation requirements would find this document useful.

Related Materials: None

Ordering Information: Write: The National Association of Secondary School Principals
1904 Association Drive
Reston, Virginia 22091

Cost: $3.00 (must be prepaid if order is less than four)

Title: Tests of Functional Adult Literacy: An Evaluation of Currently Available Instruments

Descriptor: A detailed review of measurement instruments for teachers and administrators in adult education programs.

Publication Date(s): April 1976 (Third Printing), 110 pp. + biblio.

Originator: Dean N. Nafziger, R. Brent Thompson, Michael D. Hiscox, and Thomas R. Owen, Northwest Regional Educational Laboratory (NWREL)

Intended Users: Teachers and administrators in adult education programs.

Purpose: The national goal of the Right to Read program is to "eliminate functional illiteracy by 1980 among 90 percent of the population over 16 years of age." With this there has been a rapid expansion of programs designed to teach survival skills.

The developers state that the purpose of this reference is to "review and evaluate currently available measures of functional literacy." They state further that certain parameters and limitations must be noted when using this source. First, the list includes only tests designed for use with adults. Second, the tests may be used independent of other programs and materials. Third, a standard set of criteria was used in selecting tests which have unique characteristics, making it essential for readers to translate each based on its intended use. Finally, several tests still being developed were not included but may be available now.

The compilation of tests for this reference involved a literature search, and correspondence by mail, telephone, or personal interview with publishers and professionals in the field of adult education and teaching and measuring adult reading.
Goals: Not stated.
Objectives: Not specifically stated in this review.

Content: The first part of the book covers problems in assessment of adult literacy, the method used in identifying tests, and criteria for selection. Test reviews follow and are divided into three categories: (1) criterion-referenced functional literacy tests; (2) standardized tests; and (3) informal tests.

A section on evaluation rates the tests on the same points included in descriptions in the review. The 41 criteria employed in evaluation of the tests are divided

Content:
(Cont.)

by purpose into four categories: (1) measurement validity; (2) examinee appropriateness; (3) technical excellence; and (4) administrative usability. The evaluation rating chart groups the tests under the same organization as in the review. In addition, a ranking is given for each criteria.

The test review format covers the following points in describing each test:
- publisher
- description
- availability of alternate forms
- administration time
- administration procedures
- materials used
- scoring procedure
- interpretation procedures
- validity
- reliability
- field tryouts
- ratings

A list of the tests reviewed in this reference is provided here:
- CRITERION-REFERENCED FUNCTIONAL LITERACY TESTS
  - Adult Performance Level Functional Literacy Test (APL)
  - Basic Reading Skills Mastery Test
  - Reading/Everyday Activities in Life (R/EAL)
  - Wisconsin Test of Adult Basic Education (WITABE)
- STANDARDIZED TESTS
  - Adult Basic Learning Examination (ABLE), Level I
  - Basic Occupational Literacy Test (BOLT), Fundamental Level
  - General Educational Performance Index (GEPI)
  - SRA Reading Index
  - Tests of Adult Basic Education (TABE), Level E
- INFORMAL TESTS
  - Adult Basic Reading Inventory
  - Cyzyk Pre-Reading Inventory
  - Harris Graded Word List and the Informal Textbook Test
  - Idaho State Penitentiary Informal Reading Inventory
  - An Informal Reading Inventory for Use by Teachers of Adult Basic Education
  - Individual Reading Placement Inventory
  - Initial Testing Locator Tests
  - Reading Evaluation -- Adult Diagnosis (READ)

Usefulness
Related
to CBE:

A list of competencies which come under the definition of adult literacy is provided. Educators have found that these skills are difficult to measure. This

Usefulness Related to CBE: (Cont.) reference alleviates some of the problems in developing measurement for these special areas.

Related Materials: None

Ordering Information: Write: Office of Marketing and Dissemination
Northwest Regional Educational Laboratory
710 S.W. Second, Avenue
Portland, Oregon 97204
(503) 248-6950

Cost: $4.50

VII. Appendices

Appendix A

List of Registrants

Luciano Baca	New Mexico
James E. Baker	Kentucky
B. Frank Brown	Florida
Fred J. Brown	Maryland
Leon H. Bruno	Vermont
James R. Burk	Montana
Marlin Brochett	Texas
Dale Carlson	California
Richard Causey	Alabama
Mike Cohen	NIE
Anne Covill	CCSSO
Keith Cruse	Texas
Ralph S. Daniels	Rhode Island
Dorothy Davidson	Texas
William Dean	Colorado
Richard J. Deasy	Pennsylvania
James Donnel	Colorado
Donald Egge	Oregon
Telea Falealii	Samoa
Rex Fortune	California
Charles Foster	Missouri
Ann Freers	California
John Giese	Montana
Lloyd Graham	Oklahoma
Peggy Gonder	EDUCATION USA
James S. Gladwell	West Virginia
David Gordon	California
Peter Gefroh	North Dakota
Hugh Harlan	Nebraska
Walt Hathaway	Oregon
Jim Hennes	Colorado
Dave Hornbeck	Maryland
Jeff Jeffers	Alaska
David Jesser	CCSSO
Paravhon Jearakul	Colorado
Malcolm Katz	Michigan
Kathleen Kies	Pennsylvania
Henry Kosters	South Dakota
Tom Kramer	Wyoming
Alex Law	California
A.D. Luke	Idaho
Leon Lessinger	S. Carolina
Grady McGonagill	NIE
Donald R. McKinley	California
T.K. Mullen	Maryland
W. R. Nance	Oregon
Charles W. Nix	Texas
Norvell Northcutt	Texas
LeRoy Ortgiesen	Nebraska
Lee Patton	Illinois
Dr. Picogna	New Jersey
Howard E. Row	Delaware
Charles Sharp	Indiana
Mildred Shimizer	Hawaii
William Spady	NIE
Thomas Springer	Illinois
Herb Steffens	Nevada
Ed Steinbrecher	Colorado
Alve Thomas	Montana
Donna Townsend	Texas
Les Turner	Colorado
Robert Van Raalte	Wisconsin
Ferrin Van Wagoner	Utah
Jerry Villars	Colorado
Donald Wachter	Delaware
William Wasson	Missouri
Henry D. Weiss	California
Allan Wheeler	Wyoming
Al Wight	Montana

Appendix B

CCSSO STUDY COMMISSION ROSTER

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Puerto Rico

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Appendix C

EDUCATIONAL REFORM: THE ROLE OF COMPETENCY BASED EDUCATION

Sponsored by

STUDY COMMISSION OF THE
COUNCIL OF CHIEF STATE SCHOOL OFFICERS

In Cooperation with
The National Institute of Education

Downtown Holiday Inn
Denver, Colorado
July 13-16, 1976

TUESDAY

10:00-3:00	Registration	
1:00	Session I	Silver Heels Room
	Don McKinley, Session Leader	
	Welcome - Ed Steinbrecher Workshop Organization - Don Egge Keynote Address - Leon Lessinger	
2:00	CBE Definition - Walt Hathaway Discussion	
3:00	Coffee Break	
3:30	State Experiences in Outcome Definition	
	Texas - Charles Nix California - Alex Law, Dale Carlson Oregon - Don Egge	
4:30	Discussion	

WEDNESDAY

9:00	Session II	Silver Heels Room
	Dick Deasy, Session Leader	
	State Experiences in Program Implementation	
	Pennsylvania - Dave Hornbeck California - Rex Fortune, Hank Weiss, Ann Freers Oregon - Bus Nance	
10:00	Coffee Break	
11:00	Discussion	
12:00	Lunch on Your Own	
1:00	Session III	
	Session III-A - 1:00 - 3:30	

California	Parlor A 1911
Texas	Parlor B 2011
Pennsylvania	Parlor C 2111
Oregon	Silver Heels Room

Session III-B - 3:30 - 5:00

California	Parlor A
Texas	Parlor B
Pennsylvania	Parlor C
Oregon	Silver Heels Room

7:30 Session IV — Silver Heels Room

Charles Nix, Session Leader

Adult Performance Level Project

Norvell Northcutt

THURSDAY

9:00 Session V — Silver Heels Room

Ed Steinbrecker, Session Leader

State Experiences in Assessment and Evaluation

California - Alex Law, Dale Carlson, Dave Gordon
Texas - Charles Nix
Oregon - Walt Hathaway

10:00 Coffee Break

11:00 Discussion

12:00 Session VI - Luncheon — Room to be announced

Don Egge, Session Leader

Task Force '74 Revisited - B. Frank Brown

1:30 Session VII

Session VII-A - 1:30 - 2:30

New York Competency-Based Diploma
Ruth Nickse — Silver Heels Room

California Proficiency Test
Don McKinley, Alex Law

Session VII-B - 2:30 - 3:30

New York Competency Based Diploma
Ruth Nickse Silver Heels Room

California Proficiency Test -Parlor A
Don McKinley, Alex Law

Session VII-C - 3:30 - 5:00

Oregon Experience	Parlor B
California Experience	Parlor C
Texas	Silver Heels Rm.
New York Competency Based Diploma	Silver Heels Rm.
California Proficiency Test	Parlor A

FRIDAY

9:00 Session VIII Molly Gibson Rm.

Don McKinley and Don Egge,
Session Leaders

Available Resources - Dave Gordon

9:15 Implication for Research - Bill Spady

9:45 Coffee Break

10:15 Wrap-up - B. Frank Brown, Leon Lessinger

11:00 Discussion

12:00 Adjournment

APPENDIX D

Statewide Developments in Performance (or Competency) Based Education

A Survey of State
Education Agencies,
1976

NCES 76-413

Statewide Developments in Performance-Based Education

A Survey of State Education Agencies, 1976

Report No. 1 of the NCES Fast Response Survey System

Jeanette Goor...National Center for Education Statistics

Tom Tomlinson...National Institute of Education

Anita Schroeder...Westat, Inc.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
David Mathews, *Secretary*

Education Division
Virginia Y. Trotter, *Assistant Secretary for Education*

National Center for Education Statistics
Marie D. Eldridge, *Administrator*

NATIONAL CENTER FOR EDUCATION STATISTICS

"The purpose of the Center shall be to collect and disseminate statistics and other data related to education in the United States and in other nations. The Center shall . . . collect, collate, and, from time to time, report full and complete statistics on the conditions of education in the United States; conduct and publish reports on specialized analyses of the meaning and significance of such statistics; . . . and review and report on education activities in foreign countries."--Section 406(b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e-1).

Prepared for the National Center for Education Statistics
By Westat, Inc. under
Contract Number 300-76-0009

FOREWORD

This report is based on a survey that was the first to be conducted through the newly established Fast Response Survey System (FRSS) of the National Center for Education Statistics (NCES). The objective of the FRSS is to focus on timely topics for which quick national estimates are needed for planning and policy purposes. This survey was undertaken at the request of the National Institute of Education (NIE) to obtain current data on Statewide developments in performance-based education.

Supervision of the FRSS activities, the system, and the survey are the responsibility of Jeanette Goor, Project Officer, NCES. Westat, Inc., under the direction of Anita Schroeder, developed the system and conducted the survey under contract with NCES.

Tom Tomlinson of NIE provided the survey questions required by his organization. Numerous individuals in NCES assisted in the review and preparation of the questionnaire, including Jean Brandes, Robert North, and Joseph Cook. Consultations with Jack Conway, State Liaison Representative at NCES, kept the staff attuned to the States' views. During the planning, liaison was maintained with the Data Acquisition Subcommittee (through its Fast Response Panel) of the Committee on Evaluation and Information Systems (CEIS) of the Council of Chief State School Officers. The State Education Agency coordinators supported the survey by responding quickly and thoughtfully. Assistance of these individuals and others in their agencies is gratefully acknowledged.

It is hoped that the findings of this national survey of developments in performance-based education will be valuable to persons who are concerned with this current topic.

Marie D. Eldridge

Marie D. Eldridge, Administrator
National Center for Education Statistics

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2 - Student population and status of performance-based education (PBE) in the basic skills and life skills: 50 States and District of Columbia, August 1976 3

3 - Extent of inclusion of program aspects in Statewide performance-based education plans or programs: 50 States and District of Columbia, August 1976 5

4 - Perceived need for further research and development according to current status of State program in performance-based education: 50 States and District of Columbia, August 1976 7

INTRODUCTION

Extensive pressure for educational accountability has been exerted by public and special interest groups during recent years. One of the significant consequences has been a move toward the development of performance-based standards of educational attainment (sometimes called "competency-based" or "performance-based" education). The intent of this movement is to provide an educational program that enables all pupils to master, at a minimum, certain fundamental skills at a specified level of attainment. Two groups of skills have received special attention: "basic" or "cognitive" and "life." The former involves the "three R's," and the latter refers to capabilities needed to perform daily life tasks, such as keeping a checkbook, shopping wisely, and filling out job applications or other forms.

Through professional and public news sources, it had become apparent that some States had begun to develop and implement programs based on the performance-based education (PBE) concept. It had also become apparent that the success of these programs hinged on the development of appropriate standards, criteria, and methods. This survey was designed to provide specific information about the number of States that are involved in adopting Statewide PBE standards for "basic" or "life" skills, the scope of the PBE activities, and the States' perceived needs for further research information to assist in planning and implementing PBE programs.

SURVEY FINDINGS

This August 1976 survey of SEA's received responses from FRSS coordinators in the 50 States and the District of Columbia. Since this was a complete canvass and not a sample survey, the results are not weighted; the responses were simply aggregated to provide a national total. Details are shown and discussed in the following pages and, for convenience, national totals have been entered on the survey questionnaire, reproduced in appendix II.

The survey results show that some type of performance-based educational (PBE) activities were occuring in 29 States (actually 28 States and the District of Columbia; but, for convenience they are referred to as 29 States throughout this report). These activities include planning, developmental, and operational stages. The results in table 1 show that 24 of these States had PBE activities in both the basic and life skills, and 5 additional States had PBE activities only in the basic skills area. A total of 22 States had no plans for PBE activities in either area.

Most of the States reporting PBE activities were in the planning stage (23 for basic and 18 for life skills).

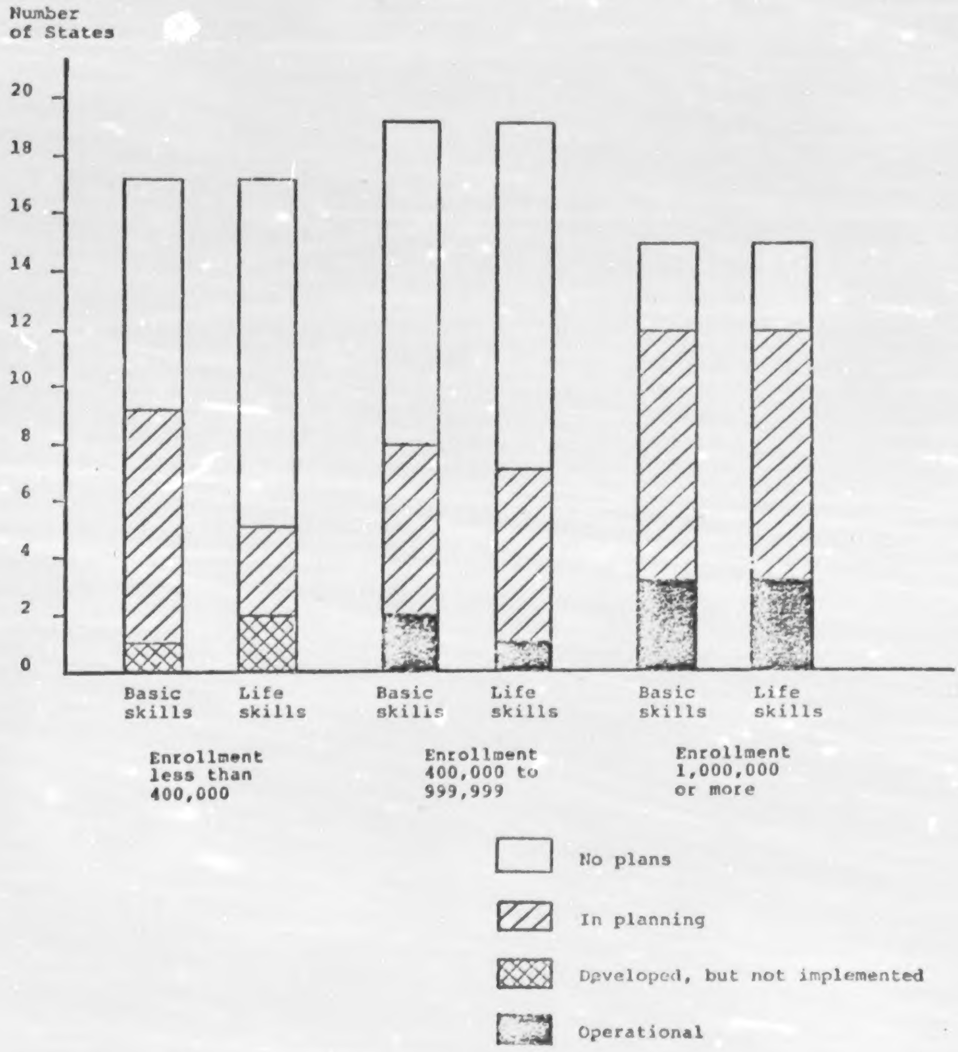
Five States had operational programs -- four for both basic and life skills, and one for basic skills only.

Table 1.--Performance-based education (PBE) in the basic skills and life skills: 50 States and District of Columbia, August 1976

PBE activity status	States and D.C.	
	Number	Percent
Total	51	100
With PBE activities	29	57
In basic skills only	5	10
In life skills only	0	0
In both basic and life skills	24	47
With no PBE activities	22	43

For a better understanding of the distribution of these activities, consider the response by student population in the States. Chart 1 shows the reported status of PBE activities for three public school enrollment ranges: less than 400,000; 400,000 to 999,999; and 1 million or more. Note that States with smaller enrollments (less than 400,000) show more planning being done in the basic skills than in the life skills. The other States show little preference for one area over the other. Moreover, no State in the less-than-400,000 range had a PBE program in operation. The chart also illustrates the substantially greater interest in both basic and life skills programs among the States with a million or more enrollment than among the less populous States.

Chart 1.--Status of programs in performance-based education (PBE), by level of public school enrollment: 50 States and District of Columbia, August 1976



Performance-based educational activities of some type, regardless of the enrollment sizes of the individual States, were occurring in 29 States with a total combined student population of over 31 million. This figure represents about 67 percent of the total public school enrollment in the United States. (See appendix I for the source and an explanation of the population figures used.) Performance-based life skills activities were being conducted in 24 States with a combined student population of nearly 30 million, or 64 percent of the U.S. total.

PBE programs in the basic skills were operational in five States: Arizona, California, New York, Oregon, and Texas. These States include approximately one-fourth of the total student population in the United States. Programs in four of these States also involve life skill standards.

Table 2.--Student population and status of performance-based education (PBE) in the basic skills and life skills: 50 States and District of Columbia, August 1976

Current status of program	Basic skills		Life skills	
	No. of students (thousands)	Percent	No. of students (thousands)	Percent
Total	46,468	100.0	46,468	100.0
In planning	19,144	41.2	18,275	39.3
Developed but not implemented	311	0.7	455	1.0
Operational	11,723	25.2	11,211	24.1
No plans	15,290	32.9	16,527	35.6

The survey questionnaire also included a question on the content or scope of each State's program in performance-based education. This question was applicable only to those States reporting PBE activity on the first question. The results show that the plans and programs of the 29 States with PBE activities included a wide range of program aspects.

The two aspects most often reported were "new or revised programs and/or courses," and "multiple opportunities to pass a required test of competence," each occurring in 24 State programs. About 75 percent of the 29 States with PBE activity indicated that their programs in performance-based education required or involved the following four additional items:

- New proficiency tests for high school graduation (22 States)
- Out-of-school learning opportunities (22 States)
- Local options in determining performance standards or criteria (22 States)
- Production and use of research information to assist administrators, legislators, and courts in formulating performance-based education decisions (21 States).

In contrast, only five States reported that "new proficiency tests for high school entrance" were included in their programs. Another relatively rare occurrence was "new performance-based standards for teachers" (11 States).

Table 3 shows the totals and percentages of States with PBE activities for each program aspect.

Table 3.--Extent of inclusion of program aspects in Statewide performance-based education (PBE) plans or programs: 50 States and District of Columbia, August 1976

Program aspect (in order of appearance on form)	Number and percent of the 29 States reporting some PBE activity					
	Including aspect		Not including aspect		No response	
	Number	Percent	Number	Percent	Number	Percent
New promotion or graduation standards that are performance-based rather than course- or time-based	25	86	2	7	2	7
New proficiency tests for high school entrance	5	17	19	66	5	17
New proficiency tests for high school graduation	22	76	5	17	2	7
Provision for "early exit" from high school	20	69	7	24	2	7
New or revised programs and/or courses	24	83	3	10	2	7
Multiple opportunities to pass a required test of competence	24	83	3	10	2	7
Out-of-school learning opportunities	22	76	5	17	2	7
New performance-based standards for teachers	11	38	15	52	3	10
Provision of State resources for local program implementation	16	55	8	28	5	17
Local options in determining performance standards or criteria	22	76	4	14	3	10
Production and use of research information	21	72	6	21	2	7

The third topic of investigation for this survey concerned the perceived need for further research and development for selected aspects of PBE. The topics receiving the highest expressions of urgent need were:

- Production and use of research information to assist administrators, legislators, and courts in formulating performance-based education decisions (26 States)
- Local options in determining performance standards or criteria (25 States)
- Out-of-school learning opportunities (24 States)

The program aspect regarded as least needing research was "new proficiency tests for high school entrance." The totals for each program aspect are shown on the questionnaire in appendix II.

Several States identified an urgent perceived need for further research and development for a topic not listed on the questionnaire, these topics were:

- Pilot testing of competencies
- Alternatives for measuring competencies
- Identification of minimal competencies
- A method of accurately delineating a continuum where a student is developing mentally and helping him/her to see this in an acceptable but realistic light

The perceived need for further research and development of specific program aspects logically would vary according to whether a State was conducting activities in PBE. This was indeed a finding of this survey. Table 4 indicates that States with PBE activities were more likely to report an urgent need for further research and development than were States with no PBE activity.

Note that 18 States with PBE activity listed "new proficiency tests for high school graduation" as an urgent need, compared with 4 with no PBE plans or programs.

Table 4.--Perceived need for further research and development according to current status of State program in performance-based education (PBE): 50 States and District of Columbia, August 1976

Program aspect (in order of appearance on form)	States reporting PBE activity (29 States)				States reporting no PBE activity (22 States)			
	Urgent	Desirable	Not needed	No response	Urgent	Desirable	Not needed	No response
New promotion or graduation standards that are performance-based rather than course- or time-based	15	13	0	1	7	14	1	0
New proficiency tests for high school entrance	2	7	19	1	1	12	9	0
New proficiency tests for high school graduation	18	6	3	2	4	12	6	0
Provision for "early exit" from high school	7	17	2	3	3	15	4	0
New or revised programs and/or courses	12	10	4	3	7	14	1	0
Multiple opportunities to pass a required test of competence	14	9	3	3	7	12	3	0
Out-of-school learning opportunities	16	8	3	2	8	14	0	0
New performance-based standards for teachers	9	13	4	3	7	14	1	0
Provision of State resources for local program implementation	11	12	3	3	6	13	2	1
Local options in determining performance standards or criteria	15	7	4	3	10	12	0	0
Production and use of research information	16	9	1	3	10	10	2	0

CONCLUSIONS

The concept of Statewide education programs involving performance-based criteria is receiving widespread attention, now extending to 28 States and the District of Columbia. There is some indication that the development of PBE programs has an "urban" flavor. Of the 15 most heavily populated States, 12 are moving in the direction of PBE. Furthermore, the 29 States with PBE plans or programs enroll two-thirds of our Nation's public elementary and secondary school students.

Most State PBE programs are still in the planning phase. Yet even at this early stage of development, the States reporting operational programs account for a fourth of the Nation's public school enrollment. Regardless of the status of PBE programs, respondents from a substantial majority of the States indicated that the development and implementation of PBE programs call for considerable supportive research and development.

The interest in performance-based standards and programs can be interpreted as a concern about defining the goals or objectives of education, developing effective educational processes to attain these goals, and identifying appropriate methods to measure such attainment.

APPENDIX I

The Fast Response Survey System

The Fast Response Survey System (FRSS) was established by NCES for the speedy collection of data needed to deal with important educational issues. The system is intended to collect information that is not available from other sources and that is narrowly limited in scope.

The FRSS has the cabability of covering six educational sectors. They are:

- State education agencies (SEA's)
- Local education agencies (LEA's)
- Public elementary and secondary schools
- Nonpublic elementary and secondary schools
- Institutions of higher education
- Noncollegiate postsecondary schools with occupational programs

For each sector except the SEA's, a stratified random sample has been designed to allow valid national estimates to be made. The sample sizes range from 500 to 1,000. All 51 SEA's are canvassed.

A data collection network, involving both responders and coordinators, has been developed in each sector. The coordinators' role is to assist in the data collection by maintaining liaison with the sampled institutions or agencies. The responders have been selected to represent their institutions or agencies and are responsible for completing the questionnaires.

The FRSS is designed to collect and analyze small amounts of data within short time periods, probably ranging from 6 to 10 weeks. Each survey has few questions, to encourage quick response with minimum burden. The number of questions is typically three to five.

The main objective of the Fast Response Survey System is to provide NCES with a mechanism for furnishing data quickly and with minimum effort. All aspects of the system--the sample design, the network of coordinators and responders, and the short questionnaires--have been designed for that purpose.

Methodology for the SEA Survey of Developments in Performance-Based Education

The SEA survey of developments in performance-based education was conducted in August 1976. A 100-percent response rate was obtained from the 50 States and the District of Columbia. Each SEA coordinator was mailed a copy of the questionnaire for response by telephone.

The data base for the public elementary and secondary school student populations used in this report is the Fall 1975 Market Data Retrieval Combined Mail File. The student population figures include the 50 States and the District of Columbia. These figures represent an accumulation of enrollment data from LEA-controlled, county-controlled, and State-controlled schools. The data also conform to the following definitions of elementary, secondary, and combined schools:

Elementary - schools having no grades higher than eight, and at least one grade at level six or lower

Secondary - schools having only grades 7 or higher, with no grade higher than 12

Combined - all others.

APPENDIX E

The Oregon Competency Based Education Program's
Current Working Characterization of
K-12 Competency Based Education

APPENDIX

The Oregon Competency Based Education Program's Current Working Characterization of K-12 Competency Based Education*

"Competency based education is a performance oriented process that establishes, facilitates with a known degree of effectiveness, and documents the attainment of desired learning outcomes that are based on the ability to function successfully in life roles."

The Defining Characteristics

The working definition proposed for competency based education presumes six interdependent processes as defining characteristics. Without reference to the specific content of a program, and without reference to how the various processes are interrelated, they are as follows:

1. A set of explicitly stated outcomes desired from instruction, including outcomes that reflect the ability to function effectively in life roles, and the requirement that a minimum set of these outcomes be demonstrated, recorded, and displayed in order to satisfy certification/graduation requirements.
2. A set of explicitly stated means by which the achievement of desired outcomes, and especially

---

*Adapted from Schalock, Spady, and Hathaway (1976). This work is under revision and therefore changes in this definition are to be anticipated.

those that are required for graduation, are to be evaluated and certified, including:

   a. the kind of indicators that are to be accepted as evidence of outcome achivement;

   b. how evidence of outcome achievement is to be obtained;

   c. what is to represent an acceptable level of outcome achievement;

   d. the procedures to be followed in judging performance;

   e. how achievement in relation to desired outcomes is to be recognized and displayed.

3. A set of explicitly stated rules and procedures for the evaluation of learning outcomes that permit students to tailor or personalize learning programs by selecting or shaping:

   a. outcomes to be worked towards;

   b. related indicators acceptable as evidence of outcome achievements;

   c. related procedures to be used in assessing outcome achievement;

   d. related standards of performance set for outcome achievement;

   e. the time and number of attempts allowed for demonstrating outcome achievements;

   f. the adaptation of all of the above to the learning strengths and weaknesses, styles and preferences of individual students and teachers.

4. The design and operation of instructional programs that:

   a. clearly link content and process to outcomes desired;

   b. clearly provide alternative learning experiences for outcome achievement; and

   c. clearly rely on performance in relation to established standards as a basis for program placement decisions, including program exit and certification decisions.

5. A set of explicitly stated rules and procedures for acquiring learning outcomes that permit students to tailor or personalize learning programs by selecting or shaping:

    a. learning activities to be pursued while working toward outcome achievement;

    b. learning environments within which to pursue outcome achievement, including choice of learning facilitators;

    c. the time and number of attempts allowed for acquiring desired outcomes; and

    d. the adaptation of all of the above to the learning strengths and weaknesses, styles and preferences of individual students and teachers.

6. A set of explicitly stated rules and procedures for assuring the continuous adaptation and improvement of ongoing educational programs through the use of:

    a. formative and summative program evaluation data, including data on program costs and data on the appropriateness of outcomes desired;

    b. student performance data; and

    c. staff performance data, including data on the effectiveness of staff development programs.

These six processes are presumed to constitute the defining or essential characteristics of a competency based education program. A program missing any one of these processes would not be judged fully competency based.

Enabling Characteristics

While the six processes described above may represent the defining or essential characteristics of competency based education, they constitute neither an exhaustive nor a sufficient set. There remain the questions, for example, of how the outcomes desired from schooling are to be determined; how resources and personnel are to be organized to carry out the processes called for by the defining characteristics, how decisions about curriculum, instruction, and resource allocation are to be made; and how the actual operations involved in instruction and assessment are to be carried out. These are the muscle and sinew of any educational program, including those that are competency based. The fact that a program is competency based will have major implications for the form which such enabling aspects of program operation will take, but every educational program must have such characteristics, in one form or another, to function at all.

On the basis of the defining features that have been proposed, four enabling characteristics should accompany a competency based education program for it to function optimally:

1. The establishment of educational goals and programs on the basis of identified social conditions, both present and anticipated, and what is known about human development and learning.

2. The involvement of students, the community and education personnel in establishing the outcomes desired from instruction, and the procedures to be used in evaluating and certifying the achievement of those outcomes.

3. The use of settings, persons and resources to achieve desired outcomes through --

   - linking program planning, operation and budgeting procedures;
   - an information management system that supports data dependent decision making; and
   - the appropriate preparation, placement and utilization of personnel.

4. The creation of a decision network that identifies for each major category of decision to be made --

   - the structure of mechanism through which the decision is to be made (e.g., an individual teacher or team of teachers, a departmental or grade level committee, a school-wide committee, a school-community council);
   - the persons to be represented in the decision making process;
   - the persons who are to take part in the decision making process; and
   - the data to be considered during the course of the decision making process.